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# AIR CONDITIONING AND REFRIGERATION

# News

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## INSIDE DOPE

by GEORGE F. TAUBENECK

Stories of the Week  
It's Here Again  
Pregnant Philosophy  
Gobbledygook

### Stories of the Week

Pure scientific investigation is the sole purpose of not a few industrial laboratories in the United States of America. Researchers employed in these free-enterprise-supported laboratories are paid handsomely while they look into every big and little dilemma that interests them.

In the long run, this random research pays off. But it leads to unexpected and obviously uncommercial discoveries, too. Almost anything interests a scientific explorer, and a "pure" scientist is likely to turn up almost anything, too.

One such denizen of a private research laboratory was fascinated by the statues of national demigods (George Washington, Thomas Jefferson, et cetera) he saw in public parks.

"How wonderful it would be," he mused to himself, "if these Graven Images of Great Men could come to life again, and tell us how to cope with our modern troubles."

For 30 years he labored on this project of reactivating heroic statues. And in his seventieth year, by gum, he devised a serum which would do the trick. To make sure he was right, he tested this serum on stone eagles, library lions, and several varieties of Wild Cast Iron Animal Life found in Michigan smalltown front yards. It worked every time.

At last he was ready for the Supreme Test. For this demonstration of his history-resurrecting serum, he selected an equestrian statue of Andrew Jackson. Only a small coterie of skeptical fellow scientists were present—no newsreel cameramen, no television, no reporters, no radioracles. History was snubbed. And that was a shame, because "Old Hickory" Jackson actually came to life again!

Shaking his leonine head and trying to focus his eyes, Jackson began swearing. He cursed so eloquently that for a time the scientists were embarrassed. Ultimately "Old Hickory" ran out of long-buried expletives, and paused to glare at his regenerator.

"President Jackson," ventured the serum-inventor, "we welcome you to the Twentieth Century. What can we do to make you happy again?"

"Gimme a gun," roared Jackson. "I'm gonna shoot every blankety-blank pigeon in this dod-blasted park!"

To an old crony, Jock McFinnegan confided that his celebration of St. Patrick's Day had been a whinging-r.

"Sure, and I had the toime of me life!" he whinnied. "I can't remember enny hin' what happened after twilve o'clock!"

"How do you know you had such a good time, then?" chided crony McE ttle.

"Sure, and next mornin' I'm hearin' the policeman what arrested me ellin' the judge all about what I did."

Daniel Dimwitt didn't like it when he found an "E" marked on his history exam paper.

"Look here, Mrs. Morgan," he expostulated to the teacher after the class was dismissed. "Why did you give me an 'E' on this test? I figured I wrote it good."

"Do you remember that question," (Concluded on Page 10, Column 2)

## 'Phony' Trade-In Prices Hit In Memo By Business Bureau

NEW YORK CITY—The National Better Business Bureau has just sent a "Memo" to major appliance manufacturers appealing for their cooperation in the avoidance of "phony" trade-in allowances.

According to the Memo, this action was prompted by a tendency in the merchandising of major appliances to revert to the pre-war type of phony trade-ins. The practice of disguising price cuts or reductions from inflated mark-ups as trade-ins is condemned by the Bureau as misleading to the public, unfair to competition, and detrimental to public confidence in business. Manufacturers are urged to exercise sound business leadership in the matter and avoid fake trade-ins.

Full text of the "Memo" follows: "We have noted a tendency recently in the merchandising of major appliances to use the pre-war type of phony trade-in allowance.

"By 'phony' we mean the trade-in which really disguises a price cut, or an especially inflated mark-up. The consumer usually is told that the trade-in is offered for her old what-not regardless of age or condition. The amount offered is far in excess (Concluded on Page 29, Column 1)

## 18 Frigidaire Units Priced 3-21% Lower

DAYTON, Ohio—Mason M. Roberts, general manager of Frigidaire Div. of General Motors Corp., has announced new packaged air conditioning and commercial refrigeration equipment lines priced from 3 to 21% lower than last year.

He pointed out that the new low prices affect 18 separate air conditioning and commercial refrigeration products.

Included are: Four completely new redesigned self-contained air conditioners for household and business use, reduced from about 4 to 21%; three new "Meter-Miser" refrigerating units for use in display cases, soda fountains, and other commercial applications, reduced from 10 to 16%; and 11 self-contained electric water coolers making up a current line, reduced from 3 to 19% under the 1948 price level.

Roberts said that Frigidaire is introducing to its field organization in May two new window-type room air conditioners and two new store air conditioners, styled by Industrial Designer Raymond Loewy.

The larger of the two new window (Concluded on Back Page, Column 1)

## 10% Down Dropped On FHA Property Improvement Loans

WASHINGTON, D. C.—Elimination of the 10% down payment requirement on Federal Housing Administration Title 1 property improvement loans was announced here recently by Franklin D. Richards, Federal Housing Commissioner.

The FHA's action in permitting modernization loans without any down payment is expected to reflect favorably in increased sales for air conditioning and refrigeration contractors.

Reports have already been received that some manufacturers and wholesalers are preparing "package" sales programs that would combine related lines such as electrical wiring, plumbing, heating, and air conditioning in a single package for the homeowner or merchant.

Commissioner Richards warned, however, that just because no down payment is now required, there will be no "relaxation of the responsibility of the insured lending institution to determine that the borrower is solvent with reasonable ability to pay the obligation and in other respects an acceptable credit risk."

Under Title 1, household, commercial, and industrial customers can (Concluded on Page 29, Column 3)

## Workers Return As Strike Ends At Philco Corp.

### Company-Union Agreement Postpones Wage Increase, Grants 2 Paid Holidays

PHILADELPHIA—The strike at the Philco Corp. plants here ended May 9, with workers returning on that day following a 5-day work stoppage.

Members of the two locals of the UEW (CIO) on May 8 ratified an agreement that had been worked out by union and company negotiators and Federal mediators.

According to the union officers, principal provisions of the new agreement are:

Philco will consider new wage increases "if and when, in the opinion of the union, a natural wage pattern within the industry is established."

Two additional holidays with pay, Washington's Birthday and Easter Monday, bringing the total of paid holidays in a year to eight; double pay in addition to holiday pay to those working on holidays.

Management to provide, at its expense, "standard hospitalization" benefits.

The agreement states that the contract, which expired April 30, is to remain in full force for one year, with the provision for re-opening wage talks at the union's request.

The union's original requests included a 15-cent-an-hour wage increase and a pension plan.

## 3 Producers Market Lower Price Models

### Two G-E 6-Cu. Ft. Refrigerators Are Cut

BRIDGEPORT, Conn.—General Electric has reduced prices on two 6-cu. ft. household refrigerator models.

Model NF-6F has been cut to \$209 from \$224, and the model NC-6F has been reduced to \$199 from \$216.

### NEMA Refrigerator Sales Pass '48 Mark

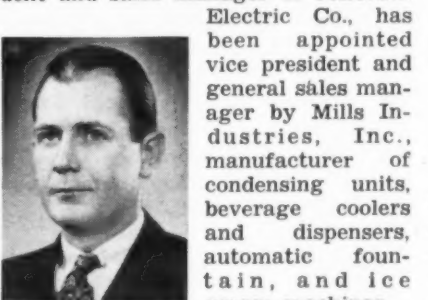
NEW YORK CITY—More than 1,000,000 domestic electric refrigerators were sold in this country during the first three months of 1949 by 13 companies reporting to the National Electrical Manufacturers Association.

This is almost 200,000 more units than were sold in the same period last year by the 11 companies then reporting to Nema. The two additional firms reporting this year are International Harvester and Sanitary Refrigerator Co.

World sales by these 13 manufacturers totaled 1,127,729 units for the (Concluded on Page 29, Column 2)

### Hoagland Is Mills Vice President, General Mgr.

CHICAGO—Robert A. Hoagland, for the past eight years vice president and sales manager of Jefferson Electric Co., has been appointed vice president and general sales manager by Mills Industries, Inc., manufacturer of condensing units, beverage coolers and dispensers, automatic fountain, and ice cream machines.



According to A. E. Tregenza, Mills executive vice president, Hoagland will supervise all sales and promotion activities for all divisions of the company.

### Apt. Model Distribution Widened by Kelvinator

DETROIT—Kelvinator is now making available to all of its dealers a 6.1-cu. ft. household refrigerator selling for \$189.95, which was formerly limited to apartment house sales.

The model, designated as the Kelvinator "CA," has a high-speed evaporator which will hold 17 lbs. of frozen foods and ice cubes. The evaporator is centered, allowing high shelf space on either side for bottled goods.

Door to the ice cube compartment is of white molded plastic, and is equipped with rubber bumpers so that it can be held easily in an open position, and closes tightly in the closed position.

### Restaurant Equipment Show Displays Are Set

ATLANTIC CITY, N. J.—Biggest display of food service equipment and food products ever to be presented at a restaurant show is promised for the 30th anniversary convention and exposition of the National Restaurant Association to be held May 24-27 at Convention Hall in Atlantic City.

More than 320 companies and organizations, including a number in the refrigeration and air conditioning industry, have taken booths for the (Concluded on Page 29, Column 2)

### Technical Sessions Listed For 4-Day ASRE Cruise

NEW YORK CITY—A full boatload of refrigerating engineers will leave Montreal, Can., on June 5 for a four-day, 800-mile cruise on the S. S. Richelieu up the St. Lawrence and Saguenay Rivers when the American Society of Refrigerating Engineers holds its 36th spring meeting.

About 400 members, guests, and wives will be on board for the cruise which will combine the usual technical sessions of the society's meetings with a recreational program of sight- (Concluded on Back Page, Column 4)

### Frigidaire Sends Apt. Model Out to Dealers

DAYTON—Frigidaire Div. of General Motors Corp. is making available to retail stores a 6-cu. ft. model to sell for \$189.75 which has hitherto been sold only to the apartment house and builders market.

It was emphasized by company officials that this new model selling for \$189.75 is distinct from the 6-cu. ft. model at \$209.75 which has been in the regular line.

### New York Locker Group Withdraws from NFFLA

FORT PLAIN, N. Y.—"Finding themselves unable to answer the questions 'Why did the National Frozen Food Locker Association buy Locker Operator Magazine and why did the NFFLA decide to divorce itself from the Frozen Food Locker Institute,' members of the New York State Frozen Food Locker Association (Concluded on Page 4, Column 4)

### Baker Central-Air Line Comes In 5-40 Tons

SOUTH WINDHAM, Me.—The Baker Refrigeration Corp. has announced a new line of central-station, packaged air conditioners in eight sizes ranging from 5 to 40 tons capacity.

These units are being introduced under the name, "Baker Central-Air," and provide the advantages of central-station operation without the high engineering and installation costs of custom-built systems, according to the company.

Completely self-contained and with fully automatic controls, Baker Central-Air units are primarily designed for remote installation with wall ducts.

However, cabinets are fully insulated against noise so that Central-Airs are also entirely practical for open installation where large single rooms such as auditoriums are to be air conditioned.

The Central-Air provides full, (Concluded on Page 4, Column 1)

## MonitorRearranges Payment of Debts

NEW YORK CITY—Because of the inability of dealers to pay Monitor distributors on schedule, Monitor Equipment Corp. has filed a petition in U. S. District Court to effect an arrangement under Chapter XI of the Bankruptcy Act, to set up a new schedule of payments on its commitments for tools, machinery, and royalties.

Monitor has asked for and received permission to remain in possession and conduct the business under court supervision. Under the arrangement requested, Monitor will be allowed seven months to completely pay out all accounts involved. Twenty-five per cent of the indebtedness will be paid off during the first three months, while the remainder will be paid out at the rate of 10% per month until the seven months elapse. (Concluded on Page 29, Column 5)

## IN THIS ISSUE

Despite the change from a seller's to a buyer's market in the commercial refrigeration field in 1948, installation of remote units in Detroit amounted to 95% of the 1947 total. A detailed analysis of the 1987 installations appears on pages 24-26.

A reader wants to know how cool water from an artesian well can be used in an air conditioning system. Turn to page 18 for the answer.

What do consumers think about the new credit regulations? To find out, a Minneapolis newspaper conducted an exhaustive survey, the results are reported on page 17.

An appliance outlet in California is known as "that store which is constantly setting up goofy window displays." One of the displays featured "left-handed" monkey wrenches, another "invisible" goldfish. So What? See page 15.

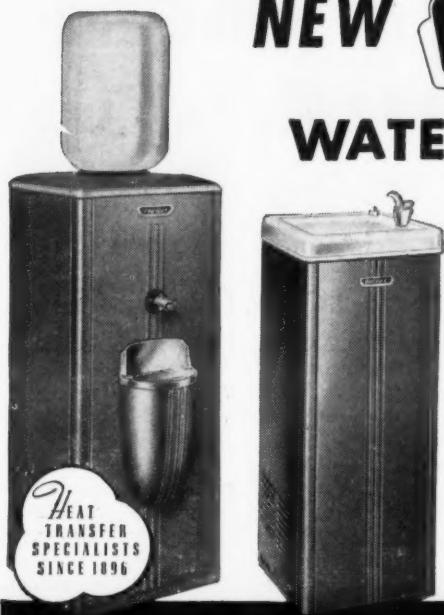




IT COSTS YOU NOTHING  
TO INVESTIGATE THE

NEW **fedders**

## WATER COOLERS

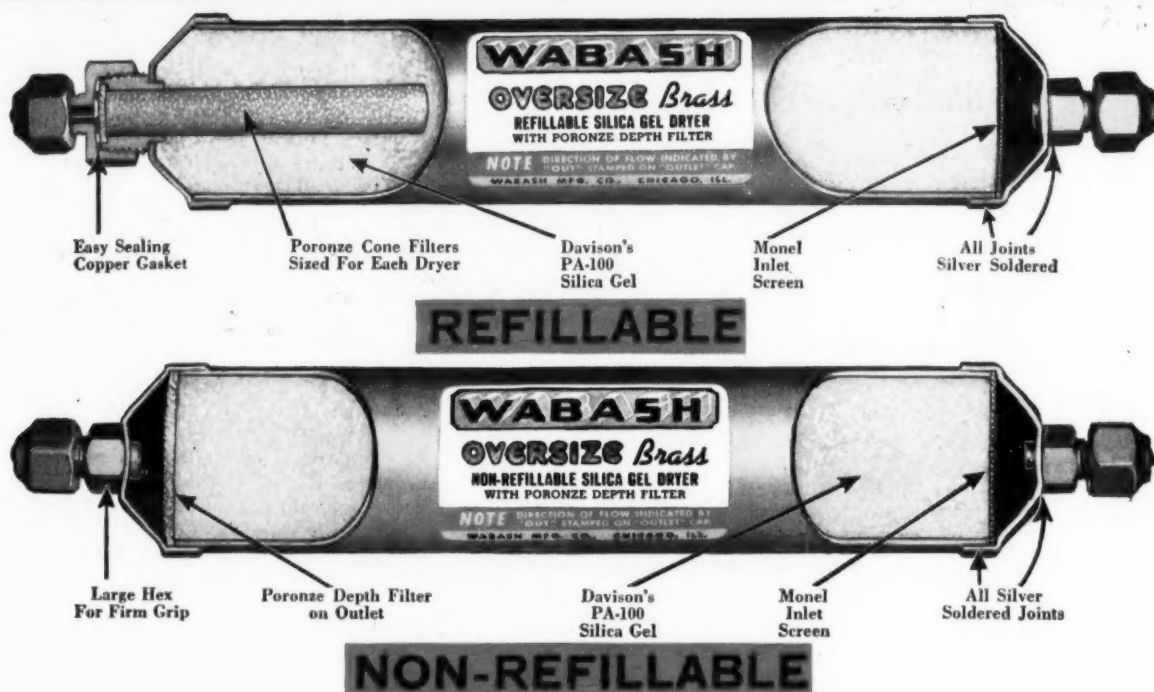


• Backed by 17 years of producing water coolers for one of the oldest private trademarks in the industry, Fedders now puts its nameplate on its own line of water coolers.

Whether you want bottle or bubbler coolers, Fedders offers you highest quality in fast-moving, popular models to fit the majority of needs with minimum investment. Write for the FACTS ...FREE.

FEDDERS-QUIGAN CORPORATION, Dept. AC1, BUFFALO 7, N. Y.

# COMPARE the NEW WABASH OVERSIZE Brass Dryers...



### ABOUT OVERSIZE DRYERS

Wabash Oversize Brass Dryers are provided with 2 cubic inches extra silica gel capacity over and above general field recommendations which are based on horse power ratings. For instance, Oversize Dryers for 1 H. P. systems have 14 cubic inches of gel or a full 2 cubic inches over other field recommendations. This extra silica gel provides reserve capacity to meet unusual conditions in the field. A real built in reserve for those hard to judge jobs and at no extra cost to you.

### TRY ONE TODAY

Stop in at your wholesaler today and pick up a Wabash Oversize Brass Dryer. Compare its high quality all brass shell and large hex wrench grips. Remember that all joints are silver soldered, the outlet is equipped with a famous Poronze depth filter and it's filled with Davison's non-powdering, high pick up PA-100 silica gel. It is double tested under high pressures and fully guaranteed. Compare it for value too — truly America's low price, high quality dryer.

## SERVICEMAN'S 30-DAY INTRODUCTORY OFFER

### TRY OVERSIZE DRYERS AND GET THIS HANDSOME PENLIGHT WITH BATTERIES FOR ONLY

10¢

POSTPAID



GET THIS  
Famous TRU-SPOT  
**PENLIGHT**  
COMPLETE WITH BATTERIES

- LIGHT WEIGHT HIGHLY-POLISHED ALUMINUM
- HAS GENUINE GE MAZDA (nipple type) BULB
- TRANSLUCENT RED MOULDED HEAD PIECE
- STAINLESS STEEL POCKET CLIP

For 10c, plus one box top from any WABASH OVERSIZE DRYER

### WHAT TO DO

To get this handsome TRU-SPOT Penlight, just send us the box top showing the part number from any Wabash Oversize Brass Dryer and 10c in coin to cover the cost of mailing. The box top must show one of the following part numbers: 403, 404, 408, 409, 410, 411, 420, 421, 430, 431, 508, 509, 514, 515, 520, 521.

— LIMIT ONE TO A CUSTOMER —

THIS INTRODUCTORY OFFER  
IS GOOD ONLY DURING MAY 1949

### SAVE THIS COUPON

WABASH MANUFACTURING CO.  
2300-18 S. WESTERN AVE.  
CHICAGO 8, ILL.

Only the following part numbers qualify — 403, 404, 408, 409, 410, 411, 420, 421, 430, 431, 508, 509, 514, 515, 520, 521.

Enclosed is 10c in coin and a box top showing the part number of a Wabash Oversize Brass Dryer. Please send me a TRU-SPOT Penlight, complete with batteries.

NAME.....

ADDRESS.....

CITY.....STATE.....

THIS OFFER EXPIRES MAY 31, 1949

### SALES

Kind of Business and Geographic Division	Per Cent Change			Mar. 1949 Sample No. of Firms Reporting	Mar. 1949 Sample Reported Dollar Sales (add 000)
	March 1949 from March 1948	March 1949 from Feb. 1949	3 Mos. from March 1948		
Appliances and specialties wholesalers	-11	+8	-7	90	12,010
New England	-14	+38	-15	6	751
Middle Atlantic	+9	+10	+9	22	4,600
East North Central	-12	-7	-4	14	1,445
West North Central	-5	-1	-3	10	768
South Atlantic	-23	-5	-8	14	1,653
Mountain	-24	+12	-27	8	911
Pacific	-27	+16	-25	9	797

### INVENTORY, END-OF-MONTH (AT COST)

Kind of Business and Geographic Division	Per Cent Change			March 1949 Sample No. of Firms Reporting	March 1949 Sample Reported Dollar Values (add 000)
	March 1949 from March 1948	March 1949 from Feb. 1949	3 Mos. from March 1948		
Appliances and specialties wholesalers	+23	-1	62	14,894	*
New England	*	*	*	*	*
Middle Atlantic	+16	0	10	3,505	1,329
East North Central	+8	-5	9	1,124	2,884
West North Central	+25	-6	8	1,641	1,130
South Atlantic	+42	0	13	7	6
Mountain	+36	+5	7	6	6
Pacific	+23	-12	6	6	6

\*Insufficient data to show separately.

## March Sales of Refrigeration Wholesalers Rise 21%, But Fail To Pass 1948 Volume

WASHINGTON, D. C. — March sales of 24 wholesalers of refrigeration equipment and parts reporting to the Bureau of the Census were

17% below those for the same month a year ago but rose 21% over the February, 1949, level, according to the bureau's monthly trade report.

First quarter sales of the firms declined 15% from the comparable period of 1948. Their dollar sales in March totaled \$776,000.

Reports to the bureau from 14 parts wholesalers showed that March inventories, valued at cost, increased 2% compared with March a year ago but were 2% below the figure for February this year. Dollar value of inventories stood at \$1,270,000.

Sales in March as reported by 90 appliances and specialties wholesalers fell 11% below the March, 1948 level. However, they were 8% higher than those in February of this year. March sales of the reporting companies were a total of \$12,010,000.

End-of-March inventories of 62 wholesalers of appliances and specialties were up 23% compared to March a year ago and down 1% compared to February, 1949. Total dollar value of these firms' inventories was \$14,894,000.

The Census Bureau's March report reflected sales and inventory trends of 3,074 wholesale houses in all parts of the country. Commenting on March figures, the bureau said that "following the usual seasonal trend, wholesale dollar sales volume... is 13% higher than reported during the previous month but continued below the sales level established for the comparable period in 1948...."

"First quarter sales for 1949 are 6% lower in dollar volume than for the corresponding period a year ago, reflecting the 8, 3, and 7% declines

as reported for January, February, and March, respectively.

"Wholesalers' inventories, valued at cost, continue to increase over those on hand a year ago (11%) although less marked than recorded for previous months."

## Legislature In South Carolina Kills Textile Air Conditioning Bill

COLUMBIA, S. C. — The South Carolina House of Representatives on April 27 voted 53 to 45 on a roll-call to table (kill) a modified version of the original air conditioning bill which industry spokesmen said would have cost the textile plants of the Palmetto State \$40,000,000.

Chief sponsors of the compulsory air conditioning bill, Representatives Matthew Poliakoff of Spartanburg and John D. Long of Union, plead with the House to pass the proposed measure.

Long charged that the cotton manufacturers "have waged an organized propaganda campaign against the legislation," and Poliakoff asserted the manufacturers "have spent more money fighting it than they would have by installing air conditioning."

The proposed measure would have required—as amended—air-wash air conditioning systems, or better, in all mills.

Poliakoff and Long cited "human reasons" and health betterment in arguing their cause. They were joined by Representative Fant of Anderson and others, but the House went along with Representative Blatt of Barnwell when he moved to table (kill) the measure.

Thus air conditioning legislation to all intents and purposes is a dead issue at least for this session.

MDD

means

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Remco's announcement

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To give you top quality Shop Repairs... all RSI service is TESTED for accuracy before being delivered to you. This saves you time, saves you money, saves you jobs. Try this TESTED service today... you'll see why it's "TOPS".

Use your letterhead, please  
REFRIGERATION SERVICE, INC.  
West Coast Wholesaler since 1928  
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Serving the Electrical Industry

Specify  
MINERALLAC  
HANGERS, CLIPS,  
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Expert design, choice materials and controlled manufacture have built "top-service and longest life" into Minerallac Electrical Specialties. That's why the electrical industry "prefers Minerallac."... In steel and Everdur for hanging pipe, conduit, BX cable, etc.

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25 North Peoria Street—Chicago 7, Illinois

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## Closed Doors—Open Minds

You'll see doors like this as you pass through the halls of Kelvinator's great research and engineering laboratory.

Behind these closed doors are men who are thinking—of tomorrow.

Can refrigerators be made better? Can they be made even more efficient? What new ideas would help people to keep foods even safer, even more appetizing and delicious? Ceaselessly, day after day, year after year, men ask themselves these questions—and hundreds of others—at Kelvinator.

Cold clear to the floor. Moist-Master refrigeration. The refrigerated Fruit Freshener. The efficient and economical Polarsphere unit. These are only a few of the great advances that have been made

by open minds . . . behind closed doors, at Kelvinator.

These doors—and the minds behind them—are an assurance of the future that lies ahead for Kelvinator Franchised Dealers.

And they are assurance that this pledge in the Kelvinator Franchise will be repeatedly fulfilled . . .

*When Kelvinator heralds a new line, the unusual may rightly be expected—revelations in styling—advanced utility, steps ahead in efficiency, economy and carefree performance.*

Closed doors—open minds—an open road ahead for Kelvinator dealers . . . a continuing opportunity for their salesmen.



TUNE YOUR RADIO TO EDWIN C. HILL and "THE HUMAN SIDE OF THE NEWS", Monday through Friday . . . another retail-minded contribution to the progress of Kelvinator Dealers.

GET MORE

*Get* **Kelvinator**

...THE MOST VALUABLE FRANCHISE IN THE APPLIANCE INDUSTRY

KELVINATOR, DIVISION OF NASH-KELVINATOR CORPORATION, DETROIT, MICHIGAN



## Central-Air Line--

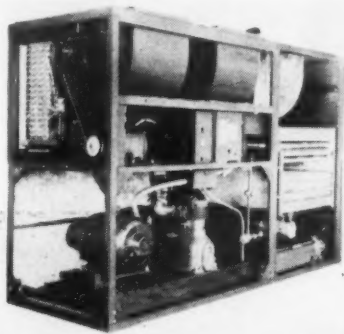
(Concluded from Page 1, Column 4)  
year-round service. In summer it cools, dehumidifiers, and circulates air. During spring and fall it can be used for fresh-air circulation. And in the winter, with the addition of heating coils, it may be used as a heating unit.

Normally the Central-Air is supplied completely assembled, tested, and ready for installation. However, where small entrances in a building make it impractical to handle the entire unit at one time, it can be shipped in separate sections.

The sections contain a Baker compressor unit; cooling, dehumidifying, and circulating equipment; and an evaporative condenser, respectively. "Freon" is used as the refrigerant, and the Central-Air comes fully charged and ready for use. Only a few major connections are necessary before operation is started.

Central-Airs are particularly adaptable for theaters, large restaurants, small hotels, supermarkets, bus and airline terminals, the manufacturer said.

## Big Package



Baker's packaged central-station air conditioner.

Sizes range from 31 in. by 56 in. by 77½ in. for the 5-ton model to 60 in. by 93 in. by 150½ in. for the 40-ton model. Compressor units installed in the Baker Central-Air are of Baker's own manufacture.

A four-page folder describing the Baker Central-Air air conditioning units is available on request to C. M. "Pete" Hatcher, advertising manager, Baker Refrigeration Corp., South Windham, Me.

## Servel Fined \$20,000 In Texas Anti-Trust Suit

AUSTIN, Tex.—Servel, Inc., was fined \$20,000 in State Court here after being found guilty of fixing retail prices on its products sold in Texas in violation of the state's anti-trust laws.

A suit filed by the state's attorney general charged that Servel had fixed prices for 400 days. The firm was fined \$50 a day.

In the original petition, Servel was also accused of illegally restricting the territory in which dealers could make sales.

## Appliance Carnival Pulls

LINCOLN, Neb.—Best customer traffic of 1949 to date was created at United Supply, Inc., 29th and "A" Sts., with a two-day spring carnival featuring appliance demonstrations by factory representatives, free balloons for children accompanied by their parents, and door prizes, it is reported by George and Dick Joy, proprietors.

## New York Locker Group Quits NFFLA--

(Concluded from Page 1, Column 4)  
tion have voted unanimously to withdraw from the NFFLA," it is reported in a recent official bulletin of the New York group.

"Terming the purchase of a national trade journal 'unwise,' and 'not in the best interests of the national membership as a whole,' members of the New York Association agreed that the quick purchase of the magazine should have been put to a vote of the entire membership of the NFFLA," the bulletin stated.

"There was no information about the price paid for the trade journal," the New York State bulletin continued. "It was explained to the members, however, upon competent authority, that publication of a trade journal on a national basis would involve considerable expense."

"Another major reason for the move to withdraw from the NFFLA fold was the fact that the NFFLA had decided to sever connections with the Frozen Food Locker Institute."

"The 1948 national convention, at

the Hotel Sherman, in Chicago, was an example of excellent cooperation between the two organizations. The convention was called the biggest and best in the industry's history."

"During the convention, the NFFLA officials suddenly refused to continue the contract binding the two organizations to mutual cooperation."

"The result of the official NFFLA refusal to negotiate was simple; the Institute promptly announced plans for a gigantic exposition to be held at the Hotel Sherman Oct. 3-6, 1949."

"There followed a confusing announcement that the NFFLA planned to hold its own national convention at the Hotel Stevens just prior to Labor Day week. The NFFLA announced that it expected to handle exhibits itself."

"Realizing that the date was embarrassing, since Labor Day signals the return to school for many operators' children, as well as a long-planned holiday annually observed, the New York state members held that the NFFLA convention was ultimately."

"New York state members also went on record as recognizing the fact that since the Institute is made up of manufacturers, builders, suppliers, etc., it would be normal to assume that exhibitors would exhibit at their own show—first."

## Jordon Offers Protection Plans on Food Spoilage, Compressor Warranties

PHILADELPHIA—Two new protection plans covering frozen food spoilage and condensing unit warranties were announced recently by the Jordon Refrigerator Co. here.

Beginning with shipments leaving the factory on May 16, the company declared, a complete protection policy against food spoilage will accompany every Jordon frozen food merchandising cabinet and every home freezer.

The company announcement continued:

"Every user of Jordon frozen food cabinets, whether installed for commercial or domestic use, will be insured against frozen food spoilage due to any type of mechanical breakdown or failure of the cabinet to maintain proper freezing temperature."

"The user will be issued a policy, at no additional cost, that will cover the contents of his frozen food cabinet up to the following amounts:

"Up to and including 16 cu. ft., \$200."

"Up to and including 25 cu. ft., \$300."

A new five-year warranty plan covering all factory installed hermetically sealed compressors in self-contained refrigerators, freezers, display cases, and beverage coolers also went into effect on May 16.

The warranty plan guarantees free replacement of the compressor if found to be inoperative during the five-year period. It is provided at a flat rate of \$5, regardless of the size of the condensing unit.

## Borg-Warner Div. To Add New Electric Range Line

DETROIT—The Detroit Vapor Stove Div. of Borg-Warner Corp., which has been marketing gas ranges since the war, will introduce an electric range line to the trade this month, E. R. Bridge, division sales manager, has announced.

The division was in the electric range business before the war, but dropped out in 1939, Bridge said.

Formal introduction of the new line will be held at the midsummer furniture market in July in the American Furniture Mart, Chicago, he stated.

How  
"FREON" ADVERTISING  
promotes the air conditioning  
and refrigeration industry

1. Increased knowledge by business executives of the advantages of air conditioning and industrial refrigeration is essential for continued expansion of the industry. Recognizing this fact, Kinetic Chemicals has for many years contributed to the industry's broad, general promotion by advertising to important selected audiences. The current "Freon" educational campaign in the architectural field is based on a survey of what architects want to know about air conditioning. Advertising in "Modern Industry" stresses the many and varied applications of refrigeration in manufacturing. In the food field, "Freon" is promoting business in the fast-growing frozen food industry.

2. In addition to this advertising aimed at specific fields, the comforts and advantages of air conditioning and refrigeration are explained periodically to more than 10,000,000 persons on the great "Cavalcade of America" radio program, and to more than 130,000 business men, through the pages of the "Du Pont Magazine."

We feel that this promotion will prove of significant advantage to the air conditioning and refrigeration industry, and thus to Kinetic as well, since our interests are so closely identified with yours.

Kinetic Chemicals, Inc., Tenth and Market Sts.,  
Wilmington 98, Del.



# FREON SAFE REFRIGERANTS

"Freon" is Kinetic's registered trade mark for its fluorinated hydrocarbon refrigerants.



MDD

means

M-O-L-D-E-D

DU-CAL DRIERITE

Watch next issue for  
Remco's announcement



## ALCO

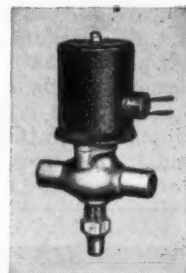
### SOLENOID VALVES THE COMPLETE LINE

for "Freon," Methyl Chloride, Ammonia, and other refrigerants  
for liquid line, suction line, or compressor discharge service  
for brine, water, steam, gas, air, oil  
for all types of electric current; small commercial valves with dual voltage  
for wide range of connections:  $\frac{3}{8}$ " to  $2\frac{5}{8}$ " solder,  $\frac{3}{8}$ " to 2" pipe thread  
for use with thermostats, timers, and many other control devices

Available at your wholesaler's.  
For full details send for proper bulletin by stating intended use of valve.



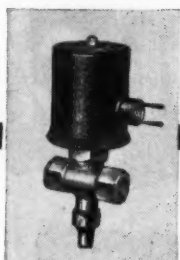
S1



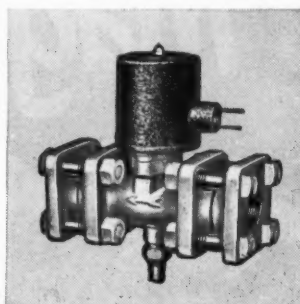
M3



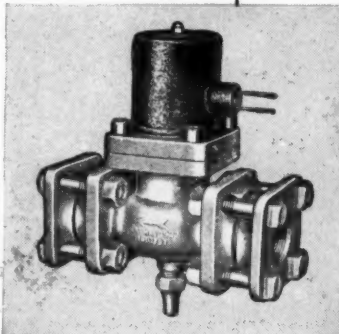
S2



M6

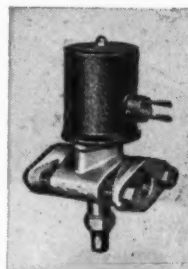


R1



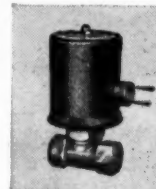
R2, R6

M9F



M5

M8



M915



## ALCO VALVE CO.

853 KINGSLAND AVE. • ST. LOUIS 5, MO.

Designers and Manufacturers  
of Thermostatic Expansion  
Valves; Evaporator Pressure  
Regulators; Solenoid Valves;  
Float Valves; Float Switches.



## 'Working' Appliances Lend Effectiveness To New York Dealer's Revamped Displays

HAMBURG, N. Y.—One of western New York's largest independent appliance dealers, Kronenberg's has completed an expansion and remodeling program in its appliance and radio section which puts new emphasis on effective display of merchandise.

The firm entered the appliance business in 1922, and this phase of its operation has been headed ever since by Edward N. Petrie.

Under the remodeling program, Kronenberg's has set up a new refrigerator display with leading brands featured on a straight-line, shadow-box platform, employing fluorescent diffused lighting.

Automatic washers are now displayed in their own special section, with all models hooked up and in operation for the benefit of customers.

Wringer-type washers are exhib-

bited in groups of four on specially-constructed platforms which take up no more room than the former straight-line setup.

Experience has taught Kronenberg's that the regular straight line wall display is the most effective for the sale of ranges. This is the setup used in the remodeled department, each range getting individual display treatment.

While Kronenberg's promotes appliances in a variety of ways, Petrie says that "service is our biggest talking point. Whenever we get a trouble call from anyone in the community, regardless of where they purchased their appliance, we make every effort to get that appliance in working order as soon as possible."

The store employs regular advertising of appliances in the community papers, and it also uses billboards. The store attracts business not

only from Hamburg and the immediate area but from many distant points in the Niagara Frontier. Its reputation as an appliance center has grown steadily over a quarter of a century.

Kronenberg's recently marked its 100th anniversary and is a four-generation family affair.

Established as a one-man tin shop in 1848 by Joseph Kronenberg, it was carried on by his son, William. The grandson of the founder, Charles B. Kronenberg, is president of the firm today, and it has been under his administration that the appliance business has grown.

Charles W. Kronenberg, son of the president, is vice president of the store, representing the fourth generation. It was under his direction that the appliance department was remodeled and expanded.

### B. A. G. Refrigeration Files

BUFFALO—A business name has been filed in the Erie County clerk's office for the B. A. G. Refrigeration Co., 24 Peru St., Buffalo, by Joseph K. and Franklin G. Berger.

## SALESMEN

Present Ratio of 1 Per 28 Persons Termed Too Small

DETROIT — At least 2 million more "sales people" are needed to keep the country's production at a prosperity level, declares Walter C. Ayers, a director of the Detroit Sales Executive Club and executive vice president of Brooke, Smith, French & Dorrance, Inc., local advertising agency.

Ayers said that at least 6 million will be required "to do the job in a buyer's market, and we have only 60% of that number now," with only between 3½ to 4 million employed in sales work.

He pointed out that in 1940 about 46 millions were employed in the U. S., including 3,200,000 salesmen, or one salesman to 14 workers in other fields. Present-day ratio is one salesperson to every 28 workers in other fields.

Ayers urged manufacturers, wholesalers, and retailers to start now "to hire and train the additional salesmen they must have."

## Deepfreeze Wins Award for 1948 Business Paper Ads

NORTH CHICAGO, Ill.—Deepfreeze Div., Motor Products Corp., recently was awarded a silver plaque by the Associated Business Papers for the outstanding business paper advertising campaign in 1948.

The Deepfreeze home freezer campaign won the award in competition with the entries of more than 600 companies.

Rhoades V. Newbell, Deepfreeze advertising director, directed and produced the campaign.

### Pollard Is G-E Seattle Agent

SEATTLE, Wash.—Rodney M. Pollard has been appointed a General Electric appliance sales representative in the Seattle office of the company's Pacific district, according to B. M. Tassie, district manager of appliance sales.

Pollard, who will represent G-E heating devices and fans, was formerly with the General Electric Credit Corp. in San Francisco.

### 'Freedom Fair' Has Festive Air

## Early Success of Anti-Drudgery Promotion Prompts Hotpoint To Make It Nationwide

CHICAGO — A nationwide sales promotion program aimed at "revitalizing sales of major appliances in department stores and other retail outlets" is being conducted by Hotpoint, Inc. through its distributors and dealers in more than 100 key city markets, reports Leonard C. Truesdell, vice president of marketing, Hotpoint, Inc.

The sales promotion drive, called "Freedom Fair," is based on a theme of freedom from drudgery afforded by revolutionary labor saving kitchen and home laundry appliances. The market testing program carried on throughout April and early May, follows an earlier city-wide test in Grand Rapids, Mich.

Truesdell said that the program is "an all out effort to spur business throughout the nation by means of aggressive selling through strong local promotions."

"Seasonal upturns in sales of electric kitchen and home laundry appliances are now taking place," he said. "Present sales curves show that people are again buying electric ranges, automatic dishwashers, water heaters, and refrigerators following a hesitation period in business around the first of the year, but they are shopping plenty before they buy."

Hotpoint is providing its dealers with all sales promotions material for conducting the Freedom Fair activity. Dealer stores are decorated with banners, balloons, and streamers to create a carnival atmosphere. Dealers and distributors are using local newspaper advertising and radio spot announcements in connection with the promotion. In addition, posters and displays in theater lobbies and other public traffic centers are used to attract visitors.

Housewives who attend special events at dealer stores are invited to bring their children. Free popcorn, peanuts, and balloons are given away as favors for the children. Small door prizes are awarded to housewives who attend cooking schools and open houses.

A special Freedom Fair sales kit prepared by Hotpoint included special invitations which were mailed to dealer customers. Other items were ready-to-mail post cards and peanut bags. Paper garbage bags carry copy promoting Disposalls. Red and

black display trims were designed for border, shelf edge, counter, wall cash register, and complete store decoration.

Truesdell said that the initial test campaign in Grand Rapids was so successful that the company decided to repeat the program on a national scale. The Grand Rapids promotion was carried out by more than 60 Hotpoint dealers in the Grand Rapids trading area. The full line promotion resulted in definite increases in sales of major appliances for most dealers in the Grand Rapids area, according to B. & W. Distributing Co. there which directed the local activity.

The current campaign follows special field meetings at which all participating dealers received a Freedom Fair promotional package including store decorations, invitations, and souvenirs. Distributor salesmen worked with their dealers to help them arrange special events and decorate their stores and windows.

The national program, keyed at an educational level to show housewives how the new labor saving appliances operate, was designed to sustain a high sales level throughout summer months, Truesdell said. All dealers are making full use of display and demonstration to dramatize cooking at the touch of a button and dishwashing at the setting of a dial.

A west coast dealer mailed 6,000 keys to prospects and is offering a home freezer stocked with food as a prize to the holder of the key that unlocks it.

Guessing contests, baking contests, and other proved business stimulants are part of the unified national sales promotion, Truesdell said.

# Inland's "Magic Touch"



## NATIONAL ADVERTISING SELLS IT!

Thousands of your refrigerator prospects and users will see this picture in Inland's "Magic Touch" advertising in the Saturday Evening Post and Good Housekeeping during the best selling season. It tells how the "Magic Touch" Ice Cube Tray works. It sells the complete ice cube convenience possible only with Inland's "Magic Touch."

Demonstrating this Inland Ice Cube Tray to refrigerator prospects makes sales easier. So be sure that all new refrigerators you stock and display offer the "Magic Touch." Insist that they come to you completely equipped with Inland "Magic Touch" Ice Cube Trays.

### Easy Replacement Sales for Quick Profits

Sell the "Magic Touch" Tray to refrigerator users who are now getting along with battered, outmoded, inconvenient trays. The marvelous convenience of the "Magic Touch" is so obvious that replacement sales are amazingly easy. Get these immediate profits—this season, this month, now!

New refrigerators fully equipped with Inland "Magic Touch" Ice Trays give your customers complete ice convenience

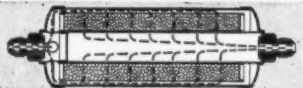
## "Magic Touch" Ice Trays

by **INLAND** MANUFACTURING



INLAND MANUFACTURING DIVISION  
General Motors Corporation, Dayton, Ohio

## POSITIVELY WILL NOT CLOG



### "Cross-Flow" DRIER-FILTERS

Eliminate pressure-drop troubles with Cross-Flow Drier Filters' exclusive new principle of flowing the refrigerant uniformly and slowly across a thin, cylindrical drying agent bed instead of forcing it thru a long powder-clogged bed.

Capacities: Liquid Line—¼ to 7½ HP; Low-side—¼ to 15 tons (Freeze 12); Suction Line—¾ to 1½" OD.

**REMCO** INCORPORATED  
ZELIENOPLE, PA.

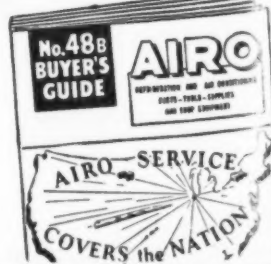
## REFRIGERATION AND AIR CONDITIONING UNITS • PARTS • TOOLS • SUPPLIES

## NEW Latest Prices Wanted Lines

Write Today for Your Copy

Why spend valuable business hours and car expense on trips to buy parts? Get fast low-cost delivery from our large, complete stocks. Airo serves buyers in 48 States and overseas.

Wholesale Only  
Please Write on Your Letterhead



**AIRO SUPPLY CO.**  
2732 N. ASHLAND AVENUE • CHICAGO 14, ILL.



Wherever people gather,  
there's a market for



# Frigidaire

## Water Cooling Equipment

Every business, every institution, every place where people gather is a prospect for one or more types of water cooling equipment. That's a big market—and Frigidaire Dealers have the equipment and the promotional backing it takes to get a big share of it. Moreover, they now can offer new low prices on most models.

Frigidaire Dealers—and Frigidaire Dealers alone—can sell water coolers equipped with the famous Meter-Miser. In addition, these dealers offer such important features as stainless-steel bubbler tops, the Magic-Action fingertip bubbler, Frigidaire's wide-temperature-range Cold-Control and an ingenious pre-cooling device that

increases capacity by more than 60%. Most important, Frigidaire makes a complete line of equipment—so dealers can provide the right size and type for every job from a small office to a large factory.

These facts add up to a major profit opportunity—one of the many opportunities that make a Frigidaire franchise so valuable.

### There's a Frigidaire Model for Every Water Cooling Job!



**Bottle type.** This Meter-Miser-equipped cooler is especially popular for offices, retail shops, showrooms, reception rooms. It's compact, needs no plumbing connections. To install, just plug it in and set the Cold-Control. Cooling capacity: 3-gallons-per-hour.



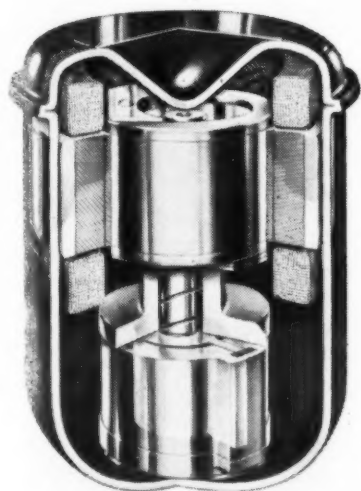
**Pressure type.** Built in five sizes—a size for almost every use. They're equipped with the Meter-Miser, are easily installed, are available with both the Magic-Action bubbler and toe-tip control. Cooling capacities from 3- to 20-gallons-per-hour.



**Heavy-duty models.** These coolers are designed for heavy-duty use in factories, warehouses, mills. Their rugged Frigidaire Reciprocating Compressors are protected from dirt and dust and their steel cabinets are made for hard service. Cooling capacities: 25- and 35-gal.-per-hr.



**Tank type.** For use in central systems or where space is cramped. Can be installed almost anywhere—may even be joined in series and operated by one Frigidaire Reciprocating Compressor. High storage capacities up to 10 gallons. Three cooling capacities—19, 30, and 51-gallons-per-hour.



#### The one-and-only Meter-Miser

is an all-important selling advantage. This simplest of all cold-making mechanisms is built with the precision of a fine watch. It's backed by a special 5-year warranty—and Frigidaire Coolers are the only water coolers that are equipped with the Meter-Miser.

#### A Partial List of Prospects for Frigidaire Water Coolers

Airports  
Banks  
Bus and Train Depots  
Cafeterias  
Clubs  
Colleges  
Dry Cleaning Establishments  
Factories  
Foundries  
Hotels  
Hospitals

Institutions  
Industrial Plants  
Large General Offices  
Laundries  
Printing and Engraving Houses  
Public Buildings  
Restaurants  
Schools  
Steel Mills  
Telephone Exchanges  
Theatres

Drug Stores  
Filling Stations  
Garages  
Retail Stores  
Super Markets  
Department Stores  
Agencies  
Brokers  
Doctors  
Dentists  
Lawyers  
Sales Offices



#### POWERFUL, CONSISTENT ADVERTISING

in many important magazines, gives Frigidaire Dealers a big head start in selling water coolers. In addition, Frigidaire makes available literature, direct-mail, displays, and other helps.

## Depend on FRIGIDAIRE

## to do things right!



## Quality Electric Range Prices Reduced \$1-\$20 By Roberts & Mander Corp.

PHILADELPHIA — Price reductions of \$1 to \$20 take effect immediately on eight Quality electric range models produced by Roberts & Mander Corp., the company has announced.

Only range to escape the slash was model EE-2 which will continue to list at \$334.95. W. B. Eckenhoff, sales manager, said no rebates would be made on dealers' current inventories of reduced models.

The price adjustments as reported by the firm are:

Model	Old Price	New Price
EE-9	\$199.95	\$184.95
EE-1	315.95	314.95
EE-5	249.50	229.95
EE-6	169.95	159.95
EE-7	274.50	269.95
EE-9	370.00	349.95
EE-99	395.00	374.95
CE-6	159.95	149.95

## Jan. Electric Water Heater Shipments Total 32,425

WASHINGTON, D. C. — January shipments of electric water heaters totaled 32,425 units valued at \$2,204,703, the National Electrical Manufacturers Association has reported.

During the same month, standard size range shipments numbered 98,701 units valued at \$13,858,701. Apartment house type electric ranges shipped, numbered 11,218 units valued at \$974,072.

Oil burner shipments for January amounted to 26,000 units. This was slightly below the December, 1948, total, and one-third under the January, 1948, figure.

## Morley Bros. Gets New Line

CONNEERSVILLE, Ind. — Morley Bros. of Detroit has been appointed exclusive distributor in the lower peninsula of Michigan for the products of American Central Div., Avco Mfg. Corp. here, Fred Hastings, division general sales manager, announced recently.

## Simplicity, Animation In Exhibits for Fairs and Home Shows Reap Dividends, Panel at Wiring Conference Concludes

CHICAGO—Beware of complicated or technical displays at fairs and home shows if you expect them to reap dividends.

That was the advice of participants in a panel discussion of the subject at the annual Adequate Wiring Conference here.

"We have concluded," said R. P. Hill, sales promotion manager of Arkansas Power & Light Co., "that if an exhibit at a fair is to pay off it must:

"1. Be animated—a traffic stopper.  
"2. Get a message over in a hurry—show window fashion.

"3. Have an aggressive attendant, if an attendant is required for the exhibit.

"4. Include a method of securing the name and address of an interested person so that personal follow-up calls can be made.

"5. Stick to one subject."

Hill presented these recommendations after describing how the utility

staged a traveling "Farm Profit-maker Show."

"The show was produced and directed by our rural development director, Ross Mauney, a rare combination of graduate agriculturist, an experienced county agent, and an actual practicing farmer," he said. "His qualifications are set out so that it will be understood that the show was a down to earth practical attempt to demonstrate the advantages and benefits to the farmer from the application of electricity on his farm. "Equipment was home made, if possible, and practical. No deluxe, impractical exhibits were included.

"A 40 x 70-ft. tent was purchased to house the show so that it would be independent of limitations of exhibit space in fair buildings and also would permit the showing of the exhibits in any rural community.

"Most of the farm productive equipment shown in the tent was owned by the company, because little

of this equipment was stocked by the local appliance dealers who furnished and displayed all of the domestic appliances.

"More thought was given to the wiring exhibit than to any other because it was realized that inadequate wiring would have to be replaced if electrical consumption was to be materially increased.

## Dual Purpose Display

"It was decided to try to accomplish two things with the adequate wiring displays . . . (1) demonstrate the effect of inadequate wiring, and (2) teach the spectators to recognize a good wiring job."

Another panel member was F. F. McCoy, superintendent of residential sales for Wisconsin Electric Power Co. He pointed out that the Electrical League of Milwaukee has had displays at the Milwaukee Home Show for the past 25 years.

"We have found that a simple, easy-to-grasp message, together with alert attendants equipped with literature to hand out to interested parties, seems to get the best results," he declared.

"Complicated or technical displays do not do the job! People are in a holiday mood and are not ready to study an exhibit. You have to catch them quick and keep their interest high for a short time or you lose their attention altogether.

## Medicine Show Technique

"Last year at the home show, we put on an exhibit much like the old-fashioned medicine show. We had two fast talking speakers giving three-minute talks every 15 minutes, alternating, one on wiring and one on kitchen planning.

"This seemed to be the most effective show we had for a long time. We got quite a response on both subjects.

"This year we are going to use the cartoon type of exhibit. We are showing a bathroom set-up with a water connection to the basin, only, and four hoses running around to the other fixtures. There will be a sign that says, 'Silly Isn't It?'

"We will also show a living room with one outlet and an 'Octopus of Multiple Taps.' Cords will run to the various lamps and appliances with signs and attendants both saying that this kind of wiring is as absurd as the plumbing arrangement next door.

"We think that the unusual sight of the exhibit will stick in the minds of the people and will impress upon them the need for better wiring.

"Not that they will buy at once—but that they will be ready to listen to a story on wiring or will read the next advertisement or article in which wiring is brought to their attention. This is the kind of an exhibit that we think will pay off."

## Worthington Notes Slight Rise In First Quarter Net Income

HARRISON, N. J. — A slight increase in net income for the quarter ending March 31 as compared with the first quarter of 1948 was reported by the Worthington Pump & Machinery Corp. here recently.

The firm earned \$1,473,708 for the quarter as compared with \$1,396,919 for the same quarter last year. Earnings per share were \$1.42 in the 1949 quarter and \$1.34 in the 1948 quarter.



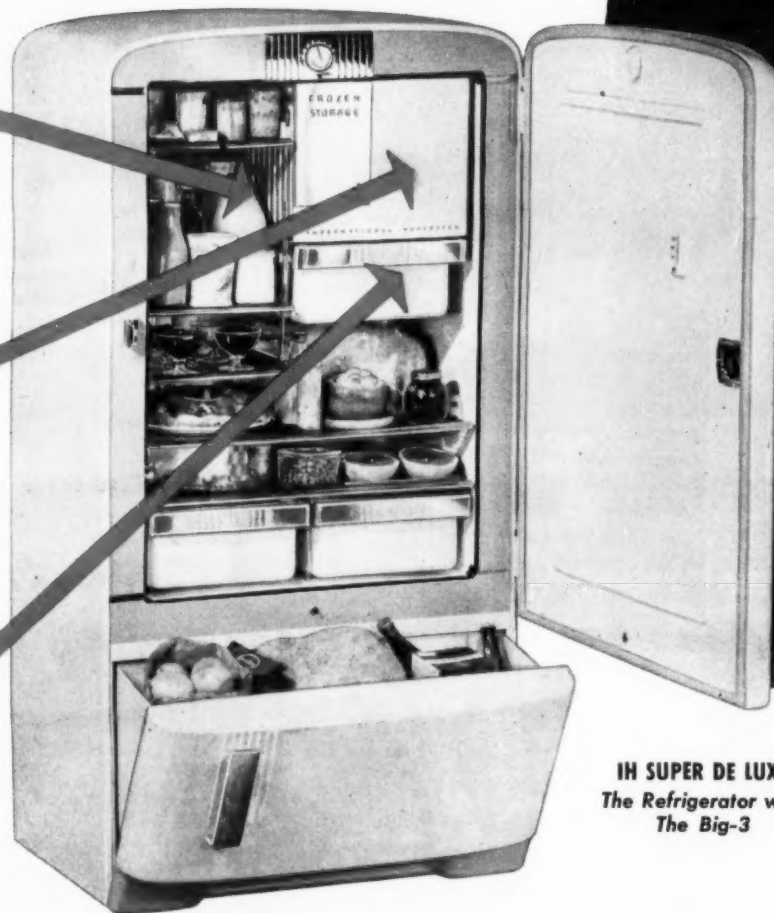
# HERE'S SALES POWER! International Harvester 8H-5

the refrigerator  
with the  
**BIG-3**

**1**  
MORE BOTTLE SPACE  
Holds 12 quarts—plus

**2**  
BIG FREEZER STOWAWAY  
Space for over 35 pounds  
of frozen food

**3**  
ROOMIER MEAT KEEPER  
"Frigidrawer" holds 13½ lbs.  
of meat, fish and poultry



IH SUPER DE LUXE  
The Refrigerator with  
The Big-3

- ★ Styled Right
- ★ Built Right
- ★ Priced Right

## MANY FEATURES

- Two Fruit and Vegetable Crispers, Holding 26 Quarts
- Tele-Temp Thermometer
- Two Foldaway Shelves
- Pantry Bin—1½ Bushel Capacity
- Interior Light, Built-in
- 8 Cubic Feet Capacity
- 16.3 Square Feet, Shelf Space

IT'S HERE! A great promotion dramatizing the extra-roomy Stowaway freezer locker, Frigidrawer meat-keeper, and the bottle storage of the International Harvester Super De Luxe! They're the International Harvester BIG-3. They are putting plenty of cash in the tills of profit-minded Harvester dealers.

New displays, new dealer newspaper advertisements, new promotional ideas are running up sales. They are making the BIG-3 famous . . . household words in every community. Take advantage of this great selling opportunity in your territory.

OUTSTANDING PRODUCT: At new reduced prices, all Harvester models are outstanding values among 8 cubic-foot refrigerators. Dealers find them readily saleable with their many great features. For example: the hermetically sealed, "Tight-Wad" refrigerating unit

which gives years of economical, trouble-free service. Five-year protection plan. All-steel cabinets; one-piece construction.

NOW UNDER WAY: Profit-minded dealers are going all out in promoting the Super De Luxe BIG-3 features. They are tying in their BIG-3 promotional activities with the full-page, four-color national advertisements appearing in 16 of the nation's leading magazines . . . tying in with point-of-sale displays, local newspapers and radio, plus direct mail, to bring refrigerator buyers into their stores.

## INTERNATIONAL HARVESTER COMPANY

180 North Michigan Avenue

Chicago 1, Illinois

Tune in James Melton and "Harvest of Stars," Now on NBC, Sunday Afternoons

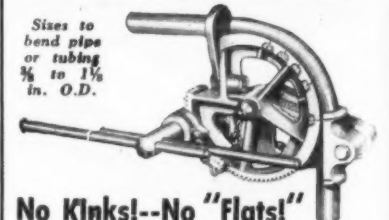


# INTERNATIONAL HARVESTER

## Refrigerators and Freezers

International Harvester Also Builds McCormick Farm Equipment—Farmall Tractors—Motor Trucks—Industrial Power

## Bend it RIGHT the First Time! —with a HOLSCRAW Handy TUBE BENDER



No Kinks!—No "Flats!"

Thousands in use for many years. Light weight, easy to carry, handy to use on the job. Save time! Make smooth bends in iron and steel pipe, conduit, or copper, brass, and aluminum tubing.

Shown above, Model B4-10 for ¼ in. O.D. tube, \$11.25 F.O.B. Evansville, Ind. See complete line Handy Tube Benders at your local supply house, or write

HOLSCRAW BROS., INC.  
422 Willow Road, Evansville 11, Ind.



## Got a second, Mr. Dealer?



try this  
cute trick!

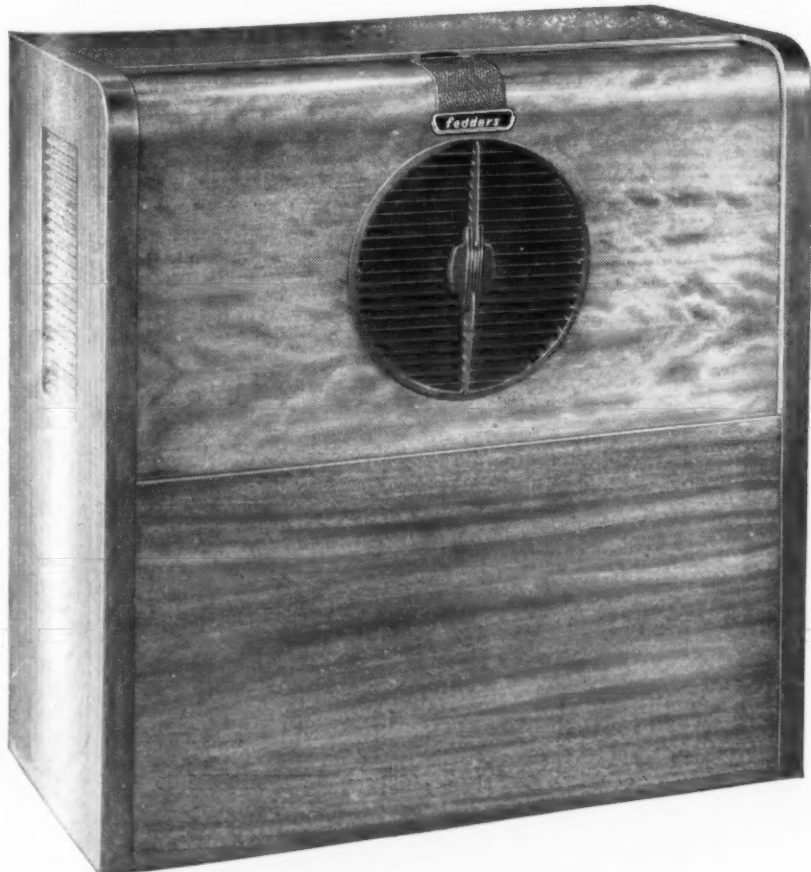
1. BLOW ON YOUR HAND
2. NOW MOISTEN IT
3. BLOW AGAIN

## Feel the difference? That's how easily you can sell Fedders Room Air Conditioners!



Both 1/2 h. p. and 3/4 h. p. window models available in ivory finish or bronze with burl walnut.

3/4 h. p. Floor Console Model. All wood cabinet in mahogany finish. High cooling capacity.



**YES**, it's a cinch to sell Fedders Room Air Conditioner when it takes only seconds to show a prospect the extra comfort he gets! With prospects for ordinary home appliances running thin, now's the time to cash in on this vast, untapped market. Here are six good reasons it will pay you to sell and promote the Fedders line:

**1. PROSPECTS ARE PRE-SOLD.** Everybody wants the year-round comfort of air conditioning. But most people don't realize how easily and cheaply they can get it—with Fedders smart line of room air conditioners.

**2. VIRGIN MARKET.** Every home, every business and professional office, restaurant, hotel and institution is a prospect for one or more Fedders units.

**3. FULL PROFIT** with every sale... no trade-in allowances to plague you. Every Fedders sale is a clean deal!

**4. A COMPLETE PACKAGE...** each unit is a complete system of electrically refrigerated air conditioning. No ducts, no piping, no building alterations. Just install in the window—plug it in.

**5. FITS YOUR OPERATION...** It's a big profit item packed with exclusive, easy-to-demonstrate selling features. You can sell room air conditioners to the same people who have been your customers for washers, refrigerators, ranges, or other appliances.

**6. 53 YEARS' EXPERIENCE!** We've specialized in heat transfer and refrigeration equipment since 1896. We believe in making money for our dealers and ourselves with the finest line of room air conditioners on the market!

Now is the time to start selling this new comfort appliance. Mail the coupon for full details today!



A GREAT NAME SINCE 1896

get  
the  
facts

FEDDERS-QUIGAN CORPORATION, Unit Air Conditioner Division,  
1280 Niagara St., Dept. AC-3, Buffalo 7, N. Y.

Let's have the full story on how I can make money on the Fedders line.

Name .....

Company .....

Street..... City .....

County..... State .....



## HAJOCA



is  
FIRST CHOICE  
of

### AIR CONDITIONING AND REFRIGERATION CONTRACTORS

There's real meaning to Hajoca's reputation for prompt service and top-quality materials. This reputation is built on Hajoca's expert personnel and extensive facilities... on "know-how"... on a sure knowledge of air conditioning and refrigeration problems. More than that Hajoca stocks a wide variety of famous name parts and equipment (Alco, Minneapolis-Honeywell, Bonney Tools and others) plus pipe, valves and fittings, to keep your installation and maintenance jobs going smoothly, rapidly, efficiently.

### HAJOCA CORPORATION

**Pennsylvania:** Philadelphia (Erie Ave. Branch) Lansdowne Reading  
**Georgia:** Columbus  
**New Jersey:** Camden  
**Florida:** Jacksonville  
**Tennessee:** Chattanooga

## INSIDE DOPE

by GEORGE F. TAUBENECK

(Concluded from Page 1, Column 1)

"Why did the pioneers go into the wilderness?" parried the teacher. "Mm-hm," assented Daniel.

"Your answer, while not entirely without merit from a hygienic viewpoint, did not jibe with the reason given in our books."

### It's Here Again

Automobile sales executives and their dealers, having recovered from the first shock of an unexpected slackening in demand, are beginning to organize their forces for what may become the greatest period of salesmanship in the history of the automotive industry.

Jack Davis, Ford's vice president in charge of sales has announced that if car salesmen can rekindle the desire to buy, the automobile industry will sell nearly 6,000,000 cars and trucks in 1949.

In acknowledging that his industry is facing a buyers' market again, Davis prefers to term it a *salesman's market*. "Without aggressive salesmanship," he avers, "a buyers' market would be a 'loss market'."

"The great social function of a sales force is to keep the market for its products in balance with production," Davis adds. "We salesmen do

not reconcile ourselves to trends, we make them.

"Production and the procurement challenges have been met. Goods are flowing through this country in deeper and wider streams than ever before in our history. The work of seeing that those goods are kept moving is now up to the well-trained salesman. It is the salesman's job to captain industry's task force for maintaining a balanced economy.

"Salesmen are coming back into their own. The Prodigal Son has returned—not to eat the fatted calf, but to keep the calf fat.

Pointing out sales potentials for the future, Davis notes that the number of American families has increased by almost 6,000,000 in eight years and "that represents a lot of human needs." At the same time, our labor force has grown by 7,000,000 workers and "that's a lot of buying power."

"What's more," he exuberates, "our consumer backlog of banked savings is three times greater than it was in 1940.

"In fact, the present savings figure of \$207,000,000 is about two and one half times greater than our whole national income in 1940—and compared to our disposable incomes, we are saving at a much higher rate than we were eight years ago."

In other words, the money is there. It's up to YOU, Mr. Dealer, to go out and get it. You'll need the help of enthusiastic, *sold-on-their-jobs salesmen*, of course. And they're hard to recruit these days.

Even when you do succeed in hiring a few promising salesmen, they're apt to quit after a few weeks. Want some help in keeping 'em, and get-

ting them on the ball? Give them copies of our three inspirationally useful laugh-learn-profit books, "One Foot in the Door," "The Marshal's Baton," and "It's a Great Life." (All three can be ordered directly from AIR CONDITIONING & REFRIGERATION NEWS).

### Pregnant Philosophy

From a house organ issued by the Artkraft Mfg. Corp. of Lima, Ohio, we are proud to quote two significant editorials. If more executives would state mutual problems so succinctly and simply, labor problems might disappear.

Here are the two artful Artkraft messages:

"The one thing that is of prime importance to every workingman, or woman, today is Job Security. This is especially true if the wage-earner is the head, or the support, of a family. We have heard a great deal during the past few years about Job Security and recent surveys have disclosed that a great majority of workers rate it even above the amount of pay they receive.

"What, then, is Job Security? It is having a job that is steady. One on which you can be reasonably sure of working five days a week, 50 weeks every year.

"Regardless of where you work, Job Security comes about by doing a job. The better the job is done, the greater the security. This is especially true right now as we are in a period of business readjustment. Many companies are crying the blues and don't know where they are going. During the lush times they played fast and loose, pricing their products for all the traffic would bear. Now the day of reckoning is at hand.

"Here at Artkraft it has always been the policy to think of our customers first, not in terms of today's business alone, but in terms of future business. As a result, we are now in a position to go after business and, instead of wondering where to go, we are about to take on a bigger job than we have ever undertaken before.

"True Job Security is a matter of teamwork. Management cannot do it alone. Neither can labor. Management can provide the industrial plant, the equipment and tooling, advance the funds to put new work in production, and go out and get the orders. Labor can provide the manpower needed to do the work. But without one, the other is wasted. Hence, Management and Labor must pull together if there is to be Job Security for anyone.

"There is hardly a day goes past but what we hear of production cut-backs in some plant or another. We have experienced one at Artkraft, but due to foresight, on the part of Management and our strong financial position, it will be but temporary. As all of you know, we are now completing a tooling program that will bring a great deal more work into our plant. Just how much more depends largely upon you folks. We are in a position to get the orders and will continue to get them just as long as we produce quality merchandise at a competitive price. The more competitive we are, the more work we will get and the greater will be your Job Security. To be competitive, however, we must produce efficiently and economically.

"Here at Artkraft we have always enjoyed excellent relationships between Labor and Management and this has been largely responsible for our success. If we all continue to think about our jobs and what we are doing, and then do our job efficiently without lost time, motion, materials, there is no reason why the future should not continue to be bright.

"We should all bear one thought in mind—Job Security is measured

by the success of the company for which you work."

GEORGE F. MADELL

Vice President & Works Manager

From Me To You, (by President Morton L. Clark)

"For the past several years it has been our opinion that the seller's market, in which everybody could sell anything at any price, would dry up much sooner than it did. Therefore, we are not surprised that buyers are today demanding value, but only that this didn't happen at an earlier date.

"There has been a resulting slowdown in business during the transition from the seller's market to the buyer's market which has been felt by almost everyone. We have believed right along that when values were demanded our sound labor relations, the high productivity of our people, our low overhead, and the fact that we are small enough to 'turn around' quickly or, as Herb Money says, 'have ballbearing action,' would make a buyer's market actually beneficial to us.

"As you all know, we are tooling up for a large, new program and have been booking substantial business. If our plans go forward to completion as it appears that they will, we should be very busy at Artkraft regardless of conditions in general. If such a result shows up, every Artkraft employee can take his, or her, share of the credit."

Sincerely yours,

MORT

### Gobbledygook

George Dixon, Washington reporter, writes:

"Union members who want to know what their rights are under the complicated Taft-Hartley Act have to keep abreast of the decisions of the NLRB, such as the following ruling cited by former NLRB counsel Gerhard Van Arkel:

"Our dissenting colleagues apparently do not believe that Section 8 (B) (1) (A) would be substantially duplicated if Section 8 (B) (4) (A) were read into Section 8 (B) (4) (A) because temporary injunction relief under Section 10 (1) was not available against Section 8 (B) (4) (A) conduct and because no civil suit by an injured party can be brought under Section 303 of Title III for damages sustained as a consequence of acts described as unlawful which also constitute unfair labor practices under 8 (B) (4) (A)."

"Now you know what your rights are, why don't you buy a refrigerator in which to keep abreast?"

PRICE REDUCED  
FULLY  
GUARANTEED  
1/2-TON SELF-CONTAINED  
WINDOW-TYPE

## AIR CONDITIONERS

FOR INFORMATION: WRITE,  
WIRE OR CALL NE. 5715.

**\$199<sup>95</sup>**

LESS THAN MANUFACTURER'S  
COST IN LOTS OF TWO OR MORE!

## SEIDEL WHOLESALE DISTRIBUTORS

2914 WASHINGTON  
ST. LOUIS 3, MO.

# PEERLESS Flash Coolers

For superior performance specify all these PEERLESS products: Flash Plates, Flash Coolers, Dome and Unit Coolers, Ice Cube Makers, Fin Coils, Off Center Coils, Expansion Valves and Capacity Boosters. Write for Details.

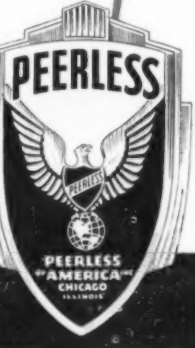


## FOR— High Humidity Refrigeration

● The wide shallow coils of Peerless Flash Coolers insure efficiency in the refrigeration of cut meats, flowers, and all products which must be guarded against dehydration. Large volumes of cooled air are delivered with high relative humidity, making Peerless Flash Coolers ideal for cold storage boxes, walk-in and reach-in refrigerators, etc. Retailers, wholesalers, packers and other users obtain maximum product protection with these easily installed, overhead and out-of-the-way coolers. Copper tubing for Methyl Chloride, Freon or Sulphur Dioxide; aluminum for Ammonia. Standard and special designs.

### NOTE THESE ADVANTAGES

- Higher operating back pressure with low flat coils provides higher compressor capacity. More efficient, with reduced operating cost!
- Refrigerant circuit is continuous copper tube with aluminum fins—non-soldered return bends. No Joints!—No Leaks!
- Internal Riffing swirls refrigerant over entire interior surface of tubing, insuring 100% internal wetted surface and 100% coil efficiency.
- Open-louvered drip pan permits free circulation of air through coil surface. Large volumes of cool temperature air flow downward by gravity over stored products.
- A Flash Cooler occupies space not to exceed 16" from ceiling. Quickly, easily installed by bolting convenient hangers to ceiling.



SOLD THROUGH LEADING REFRIGERATION SUPPLY WHOLESALERS

PEERLESS of AMERICA, INC.  
2901 Lawrence Ave., Chicago 25, Illinois, U.S.A.

# Sell Tarvic

FOR

DISPLAY CABINETS • ICE MAKERS  
BEVERAGE COOLERS • WALK-INS  
QUICKFREEZERS • MILK COOLERS

WRITE

VICTOR PRODUCTS CORP., HAGERSTOWN, MD.





# BAKER

## AIR CONDITIONING AND REFRIGERATION

*Now you can sell*

### BAKER "PACKAGED" AIR CONDITIONERS *for every location where a self-contained unit can be used*

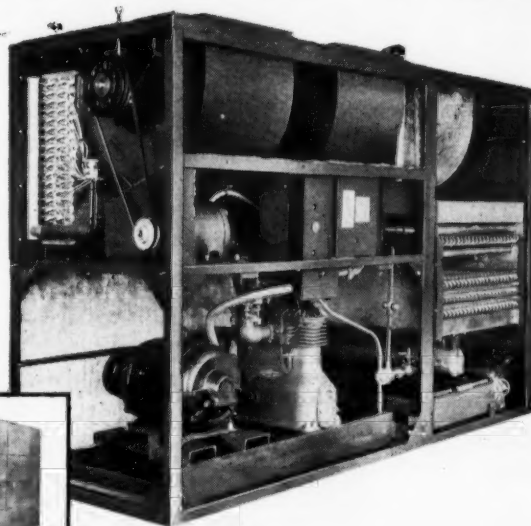
Baker Distributors are digging up diamonds in their own back yards. Restaurants, Taverns, Stores, Beauty Parlors and scores of other business operations are all prospects for BAKER AIR CONDITIONING. In addition to Baker's famous Custom-built Air Conditioning, Baker Distributors are now offering a complete line of self-contained units, easy to install — engineered and built to give premium performance for years to come.

Baker aids its Distributors with advertising and sales promotion helps that are making the name Baker as famous in Air Conditioning as it is in Refrigeration.

### BAKER CENTRAL-AIR

The Complete Packaged Central Station  
Air Conditioner. 8 sizes . . 5 to 40 tons

Each BAKER CENTRAL-AIR unit is engineered and tested at the factory, and delivered fully assembled and charged, ready to operate as soon as installed. It provides in a single housing the Baker Freon Compressor, the Evaporative Condenser, and the air cooling, de-humidifying and air circulating units, all complete with motors, pumps, automatic and manual controls.



Distributors are featuring quick installation with "business going on as usual" — and year-round comfort: coolness in Summer, warmth in Winter and perfect ventilation at all times. *Write for new Bulletin ADM1004.*

### BAKERAIRE Self-Contained Air Conditioner in DeLuxe Cabinet . . 3—5—7½—10 ton units



This handsome air conditioning plant is a practical business-getter for Baker Distributors and for their customers. Ideal for any store, office, restaurant, tavern . . . where adequate service can be supplied by one or more units.

BAKERAIRE offers complete 4-way air conditioning. It de-humidifies and cools the air; filters and circulates the air; can bring in fresh air; and

(when properly equipped) will serve as a circulating heater.

Key to its star performance is the Baker Hermetic Condensing Unit, which, unlike most hermetics, allows for adjustments and replacements in the field. Bakeraire is also available with the Baker open-type units of comparable capacities.

*Write for new Bulletin ADV1001.*

*For Custom-built Air Conditioning and Refrigeration Baker offers a full line of highest-quality compressors, condensing units and auxiliary equipment.*

*Certain territories are open to well-established Distributors looking for a wide line and attractive franchise. Wire, telephone or write today for complete details.*

97-AR

## BAKER REFRIGERATION CORPORATION

(Formerly BAKER ICE MACHINE CO., INC.)

General Offices: South Windham, Maine • Factories at Omaha, Nebraska and South Windham, Maine



### Weil's, North Carolina Store, Installs Year-Round System

RALEIGH, N. C.—Stahl-Rider, Inc., air conditioning and refrigeration, 117 E. Davie St. here, recently installed Carrier air conditioning, both summer and winter, in Weil's, Goldsboro, N. C. This is said to be North Carolina's newest and most modern type of metropolitan department store.

### Pittsburgh Lectrodryer Names Sales Agents for Midwest Area

PITTSBURGH—The appointment of two new sales agents for the Detroit and southern Ohio areas has been announced by Pittsburgh Lectrodryer Corp., manufacturer of dehumidification equipment.

They are: The Kerr Machinery Co., Kerr bldg., E. Fort and Beaubien Sts., Detroit 26, and G. Baillie Houlston, which is located at 707 Race St., Cincinnati 2.

### Baker Elected President Of Syracuse Contractors

SYRACUSE, N. Y.—Walter M. Baker, Jr., has been elected president of the Syracuse Association of the Sheet Metal, Heating, Air Conditioning, and Roofing Contractors.

Ray H. Nordstrom was elected vice president and Bernard Frawley will serve as secretary and Arthur Witz as treasurer.

Baker succeeds Armando Falso, who has served as president of the association for four consecutive terms. Nordstrom was appointed chairman of the code and licensing committee.

Also serving on that committee will be Baker, Harry Goldsmith, Arthur Strickland, Jerome Zepitello, Falso, Tarky Lombardi, Arthur Heaphy, and William Feldman.

### Nelson Is Cutler-Hammer Air Cooling Specialist

MILWAUKEE — Cutler-Hammer, Inc., has recently announced the appointment of K. M. Nelson to the post of air conditioning industry specialist.

Creation of the post is believed by the company to be an important step toward improving old and developing new methods of control. Nelson's duties would involve surveying the over-all requirements of the field and making recommendations.

Associated with the company's machine tool and air conditioning products for a number of years, Nelson will promote closer cooperation.

### 'Occasional' Patrons Become 'Steadies' When Pastry Shop Uses Custom-Case To Specialize In Whipped Items

DENVER—Specializing in whipped cream products and investing \$500 in a refrigerated display case have increased over-all sales volume by more than 300% for the Frost Pastry Shop, at Colfax and Downing Sts. here.

Herman Gulkin, young Denver baker who took over the long-established pastry shop a year ago, places a lot of faith in the sales-building potentialities of whipped cream products.

"When I took over the bakery, whipped cream specialties were still relatively new to many of my customers," he said. "Therefore, I determined to specialize in them. My experience has been that the whipped cream items will bring in new customers, who cannot obtain these elsewhere. They are likely to become regular customers after discovering the breadth of our baked goods stock."

"This theory has worked out in actual practice—many of the regular customers now dropping in daily were first introduced to us through whipped cream specialties of one type or another."

Gulkin recently returned to the United States after three years of service with the American Military Government in Germany. Prior to that time, he was associated with his father in a retail bakery in an eastern state, and he spent a good deal of his time overseas in studying new developments in the baking field, particularly whipped cream specialties.



Whipped cream pastries at the Frost Pastry Shop have proved a drawing card for other sales of baked items.

As a result, when he bought out the existing bakery in which his plant is now located, he was ready to "shoot the works" in this field.

His first step was to spend \$500 for a custom refrigerated display case, constructed of blonde oak to match other display fixtures in the retail store.

The refrigerated case contains three levels of shelving, with a slanting front, and a concealed coil, connected to a 1/3-hp. condensing unit.

It holds a 35 to 40° over-all temperature.

The coil is completely concealed at the top of the case, and many customers, until they are told, do not know that the case is refrigerated, according to the Denver baker.

Since opening day, the Frost Pastry Shop has featured a long line of whipped cream specialties, which include eclairs, cream puffs, ice cream cakes, whipped cream cakes, charlotte russe, and other specialties.

The most popular item, over a year's time, has proven to be a mint eclair, selling at 15 cents each, which is filled with high butterfat content whipped cream, tinted a delicate pastel green with mint flavoring.

Reserve stocks of whipped cream products are maintained in a huge 4-door retarder-refrigerator at the rear of the bake shop, which will accommodate 40 18 by 22-in. pans.

Surplus pans of each whipped cream specialty are produced daily, and stocked in these trays. They are simply transferred to the refrigerated showcase as sales progress. Volume in the bakery has increased 300% over the average monthly sales at the shop at the time Gulkin took it over, according to the baker.

"I credit the majority of the increase directly to the fact that the refrigerated case, and the whipped cream specialties attracted many customers whom we might not otherwise have been able to contact," he said.


### William Edwards Becomes Sales Manager for Rubber Parts Firm

MIDDLEFIELD, Ohio—William R. Edwards has been appointed sales manager of The Johnson Rubber Co., here, Zach K. Waldron, general manager, has announced. The Johnson company specializes in the manufacture of moulded and extruded rubber parts for refrigeration and other industrial use.

Edwards had been with the B. F. Goodrich Co. for over 20 years. He served as manager of ordnance sales during the war and has been automotive sales representative since then.

### Appliance Dealer Doubles Space

ASHEVILLE, N. C.—Cagle Music Co., electrical appliance dealer at 78 Patton Ave. here, recently staged a gala opening for its remodeled store. The remodeling operations doubled the firm's floor space.

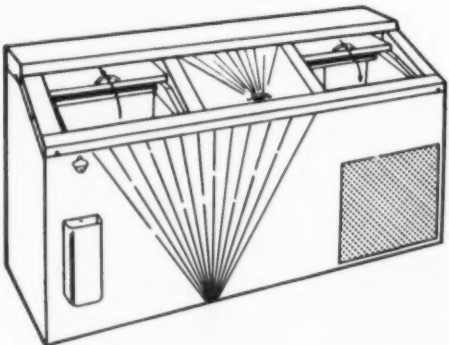
**MDD**   
means  
**M-O-L-D-E-D**  
**DU-CAL DRIERITE**  
Watch next issue for  
Remco's announcement



**FOR 1949**

- All Stainless Steel Top
- Easy Slide-up S.S. Doors With Only a Finger Touch
- Automatic Inner Lighting
- Removable Partitions and Floor Racks
- Full-length Utility Shelf
- Dry Air Cooling Over Contents Always

**AMERICA'S FOREMOST**



**CHAMPION Black Beauty**  
Self-contained Model CHB-74-SC (19 cases)  
Same features as CHB-74. Compressor section built-in with storage space above . . . with compressor unit ready to plug in.  
Other Sizes:  
CHB-52-SC (12 cases); CHB-98-SC (27 cases);  
CHB-120-SC (35 cases).

WRITE FOR CATALOG AND PRICE LIST



**CHAMPION Black Beauty**  
Remote Model CHB-74 (23 cases)  
Finished in attractive Black Morocco

Other Sizes:  
CHB-52 (16 cases) 2 doors; CHB-98 (31 cases)  
4 doors; CHB-120 (39 cases) 5 doors.

Both the remote and self-contained models in all four sizes also available in the original all stainless steel clad exterior (except back).



**NATIONAL COOLER CORPORATION**  
1600 WOODLAND AVENUE • CLEVELAND 15, OHIO  
Manufacturers of Stainless Steel and Metal Restaurant Equipment

**TYPHOON PACKAGED UNITS**

The **MOST** Air Conditioning at the **LOWEST** Cost Per Ton

1 1/2 to 10-ton units 1909 1949

NATIONALLY ADVERTISED

**TYPHOON Air Conditioning Co., Inc.**  
794 Union St. • Brooklyn 15, N. Y.





**HAVE YOU  
TRIED  
THEM?**



**NEW!**

**DIFFERENT!**

# **McINTIRE DC FILTER-DRIERS**

*means Double Capacity*

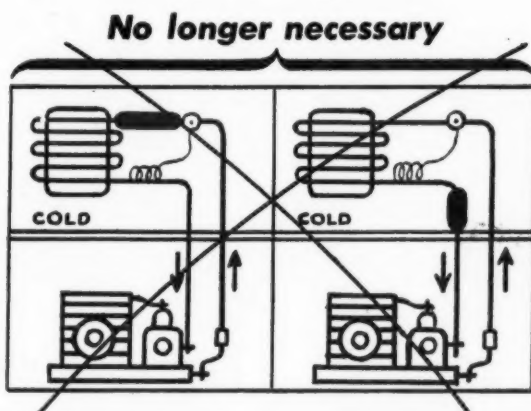
**DOUBLE CAPACITY - RESERVE CAPACITY**

**Saves callbacks . . . Saves cost**

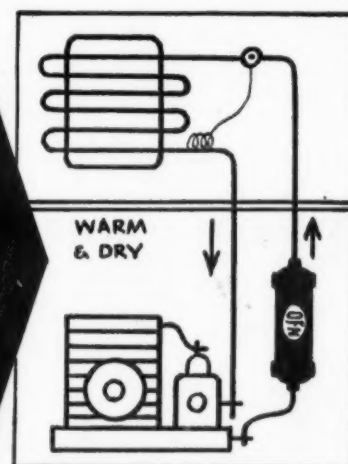
## **LIQUID LINE INSTALLATION**

*Regardless of line  
temperature to 150° F.*

*No need to install  
in cold place.*



**The  
DC Way**  
Warm, Dry  
Convenient



**FIRST PASS DRYING** to -60° dew point. . . *No repeated warming of valves or cycling necessary.*

**PROGRESSIVE FILTERING.** *Clean system - Free Flow.*

*Buy them from your wholesaler.*

MADE by the  
MAKERS of



MOISTURE INDICATORS and  
MOISTURE CONTROL UNITS

**McINTIRE CONNECTOR COMPANY**

265 Jefferson St., Newark 5, N. J.



see your "DETROIT"

WHOLESALE

for  
Expansion Valves  
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DETROIT LUBRICATOR COMPANY General Offices: 5900 TRUMBULL AVENUE  
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Division of AMERICAN RADIATOR & Standard Sanitary CORPORATION  
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"Detroit" Heating and Refrigeration Controls • Engine Safety Controls • Float Valves and Oil Burner Accessories  
"Detroit" Expansion Valves and Refrigeration Accessories • Stationary and Locomotive Lubricators  
EXPORT DEPARTMENT—Box 218, Ridgefield, New Jersey

### Meat-Case-on-Wheels Rolls In Front of Market To Get Patrons Inside

ST. LOUIS—A custom-built refrigerated case, mounted on heavy caster wheels, has proven a wise investment for Jack Balk, meat department manager at Thomas', supermarket at 6th and Delmar in the midst of the downtown section of St. Louis.

The "portable" meat refrigerator case is rolled out on the sidewalk in front of the Thomas store every morning, where thousands of downtown shoppers and workers pass it daily. Seasonal meats are featured in the two-shelf interior, such as hams for Easter, sausages and frankfurters for summer luncheons, turkey and other fowls for Thanksgiving, and fish for Lent. Bright cold cathode lighting lamps in the interior give high visibility at all times.

Balk ordered the novel case from Hussmann, spending an extra \$25 for the frame and caster wheels which makes it portable. An electrical outlet was run along the front of the store to power the built-in condensing unit.

Meat sales have risen so sharply as a result of the handy display that Balk estimates it paid for itself in two month's time.

"I learned that it was necessary to install a lock within a couple of days after we started on the system," he smiled. "Even though the case was constantly under the eyes of employees, two hams disappeared in broad daylight!"

### Watching Transparent Homes Show Exhibit



Part of the crowd that milled around Baker's booth at the Portland Better Homes Show.

### 'Free Ice Water' Sign Draws 15,000 Customers To Baker Ice Cuber Booth

PORTLAND, Me.—More than a total of 15,000 people in six days crowded around an exhibit booth maintained by Baker Refrigeration Corp., simply to drink ice water! So reports C. M. "Pete" Hatcher, sales promotion manager for the company, in telling about the model DC6 Baker "Ice-Flo" (automatic ice cube making machine) displayed at the Portland Better Homes Show.

The automatic ice cube machine was specially equipped with a transparent plastic top which enabled the people to see the ice cubes actually being made, flowing from the freezing trays into the insulated storage bin which is part of the entirely automatic equipment. At the suggestion of Tom Pendergast, president of Baker, a sign was erected offering free water from Sebago Lake, chilled with Baker Ice-Flo ice cubes, also made from Sebago Lake water. This water is famous throughout Maine for its purity.

### Bodine, of Copeland, Addresses Ohio RSES Local Groups May 24

SIDNEY, Ohio—Dale Bodine, service manager for Copeland Refrigeration Corp., will be the speaker at a meeting here May 24 for the Lima, Marion, and Dayton members of RSES and guests, being sponsored by the Allied Supply Co. of Dayton.

Buffet dinner will be served at 6:30 p.m. in the Canal room of the Wagner hotel in Sidney.

### Burgess-Manning Co. Issues Booklet on 'Bouncing Pipes'

LIBERTYVILLE, Ill.—The Burgess-Manning Co. here announces that it has available for free distribution a 15-page booklet entitled "Bouncing Pipes" by R. L. Leadbetter, research director.

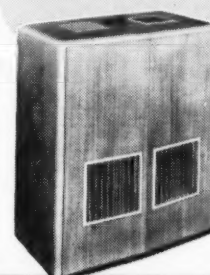
Bouncing Pipes tells the story of oscillating molecules that impede the smooth flow of gas and air through pipe lines, and offers a solution of this expensive, time consuming and hazardous problem through the use of "Snubbers."

### Norman Dunning Named Remco Representative

ZELIENOPLE, Pa.—Norman J. Dunning's appointment as district representative for Remco, Inc., in charge of sales in the territory including Pennsylvania, Ohio, Michigan, West Virginia, and Canada has been announced by K. M. Newcum, president.

Formerly a district representative for Superior valve & Fittings Co., Dunning before the war was with G-E.

### The Sale's a Cinch with ... NEW usAIRco CONSOLE ROOM CONDITIONER



PACKED WITH  
SELLING POWER!

Re-designed, re-engineered by America's foremost creator of dependable equipment.

WRITE FOR DETAILS

United States Air Conditioning Corporation  
Como Ave. S. E. at 33rd • Minneapolis 14, Minnesota  
Better dealer profits with better values

## How many BTU's per horsepower hour?



Refrigerating equipment installation engineers know that the refrigerating capacity of a condensing unit is measured in terms of BTU's produced per hour per horsepower. How many BTU's in a horsepower hour depends entirely upon compressor design and operating efficiency. Cost of BTU production is the whole cost of refrigeration.

Obviously, if a required refrigeration capacity can be produced with less horsepower, less running time, less wear in the unit, you can see where worthwhile installation economies can be effected plus a greater customer satisfaction.

BRUNNER MANUFACTURING CO.  
UTICA 1, NEW YORK, U.S.A.

IN YOUR BUSINESS it's well to know all the answers. It will be time well spent to let a Brunner factory representative show you the many reasons why Brunner compressors deliver such a high and dependable efficiency. Just send your name and address.

REFRIGERATION  
CONDENSING UNITS  
...a size and type  
for every purpose

**BRUNNER**  
SINCE 1906

AIR AND WATER COOLED MODELS  
1/4 HP. TO 30 HP.

### THE RIGHT COMBINATION FOR PROFIT!



The popular  
FEDERAL Com-  
bination Walk-  
in Self Service  
Display. Ideal in  
design, made in  
Add-A-Section  
construction, a  
section can be  
added any time.

SELF SERVICE FRONTS OF TWO,  
THREE, FOUR, SIX, OR EIGHT  
DOORS OBTAINABLE.

For more product on display . . . this combination Walk-in and Display, is another Federal store tested sales getter. For over 30 years Federal has maintained its leadership for quality products.

Send for data on the Food Saver  
Selling Plan. Ask for desirable  
territories still available.

**Federal**  
REFRIGERATOR MFG. CO.  
Waukesha, Wis.



## Calif. '48 Taxable Sales Of Air Conditioning, Home Appliances Up over '47

SACRAMENTO, Calif.—Taxable sales of home appliances and furnishings in California during 1948 increased 11.49% over the preceding year to reach a total dollar volume of \$10,883,160, according to figures made available by William G. Bonelli, chairman of the State Board of Equalization.

Taxable sales of air conditioning, heating, and plumbing equipment and materials in California during 1948 rose 13.65% over the preceding year to a total of \$198,658,720 and produced state sales tax revenue amounting to \$4,966,468, the data disclosed.

California's taxable sales of all kinds during 1948 soared to an all-time high of almost \$11,400,000,000.

Every county in the state reported gains in the total taxable sales made last year as compared with 1947, the largest percentage increases occurring in small northern California counties which contribute a relatively small share of the state total.

Los Angeles county, which reported 42.52% of all sales in the state, showed an increase of 6.46%, and San Francisco county, which accounted for 12.13% of total sales, gained 2.68% in dollar volume.

Bonelli pointed out that almost all of the gains over 1947 were registered in the first three quarters of 1948. Even though taxable sales in the fourth quarter were in excess of \$3 billion—they represented only a fractional gain over the corresponding quarter of 1947. This gain was the smallest record for any quarter since the summer of 1943 and compared with postwar increases that ranged from 8% for the second quarter of 1948 to 43% for the third quarter of 1945.

One half of the business classes had a smaller dollar volume of fourth quarter taxable sales in 1948 than in 1947. Sales of home furnishings and appliances, however, showed an increase of 1.79% in this period, while sales of heating, plumbing, and air conditioning equipment and materials were up 7.82%.

## Carrier Appoints Barbeck Dallas Merchandise Mgr.

DALLAS—John N. Gillham, southwest district manager for Carrier Corp., announces the appointment of C. A. Barbeck as Dallas district merchandise manager. Barbeck's responsibilities will primarily be connected with sales and promotion of room air conditioners and home freezers in Oklahoma and Texas.

Barbeck, a native Texan and a graduate of Notre Dame, comes to Carrier with a background of 15 years experience in air conditioning and refrigeration.

During the war he was in charge of air conditioning and refrigeration for the U. S. Army in the Chief of Engineer's Office.

**JEWETT FREEZER SENTRY**

**A PROFITABLE "Push Over" SALE**



**ON EVERY FREEZER SERVICE CALL**

Every home freezer owner needs this warning device of mechanical failures. You know the owners. They need the Sentry.

Self-contained...installed in two minutes...positive action...no thermostat...battery operated with 5 year battery life...100 hour buzzer operation...extra profit margin...write for complete story.

**JEWETT ASSOCIATES**  
1053 MAIN STREET BUFFALO 8, N. Y.

## Monitor May Announce 2 New Washer Models

RIVERDALE, N. Y.—Monitor Equipment Corp. is expected to introduce two new washing machines, which it will market along with its "Aerator" washer (price of which was recently reduced to \$49.95 from \$69.50).

The new models are expected to be introduced at a meeting of Monitor distributors here this week. They are a 6-lb., single-tub washer equipped with a full-size hand wringer, a power pump, and a clutch to start and stop operation.

Other model is a double-tub type which will be featured by a foot pedal wringer which will accept materials of any thickness, and a top that can be adjusted to fit alongside the washer so that the entire washer can be used as a work table.

## Camp To Expand Facilities

WATERTOWN, N. Y.—Work will get underway soon on an extensive repair and expansion program on refrigeration facilities at Pine Camp.

## Passersby Stop To Look When 'Invisible Goldfish' Appear In Dealer's Window

VENICE, Calif.—A clever means of attracting attention to window displays which gives the public "a laugh" while getting them to look at the display, has been developed by L. E. Hicks, owner of Hicks Appliance Co. here.

Realizing that standard appliance displays are usually duplicated a dozen times in every shopping district in the city, Hicks has attempted to "get something different into every window display." Humor, he found, is highly appreciated by almost every passerby. Therefore, since early 1948, there is always some type of laugh-provoking stunt mixed in among the appliances in the Hicks window display.

Capitalizing on an old saw, Hicks got a welcome response when he displayed "right and left-handed monkey wrenches," in a typical window. For this display, a spot in the center of the window was utilized, with two ordinary refrigeration wrenches laid on it, one facing to

the right and one to the left. Behind it a placard read "Only Hicks have right and left-handed monkey wrenches." The display stopped almost every passerby for a month, according to the dealer.

Another stunt which got much attention was a gold fish bowl, filled with clear, ordinary water, which was displayed on a table in the center of the main window. Beneath this was suspended a sign which read "Invisible goldfish from Patagonia." This stunt not only stopped idle passersby, but created so much comment that a reporter from a southern California newspaper came around to give the store considerable publicity as a result.

"Now, a lot of people refer to us as 'that store which is constantly setting up goofy window displays,'" Hicks grinned, "which we feel is far better than not being known at all. Everybody in the organization has a chance to dream up stunt display ideas of this kind."

## Bankers' Group Urges Reserve Board To End Consumer Credit Controls

NEW YORK CITY—Abolition of all controls over instalment credit has been urged on the Federal Reserve Board by the American Bankers Association.

The proposal was made by the association in a letter dated May 4 by its president, Evans Woollen, Jr., to R. M. Evans, governor of the F.R.B.

Woollen, who also is board chairman of Fletcher Trust Co., Indianapolis, recalled that at the time of reimposition of instalment credit controls, the American Bankers Association took the position that "when shortages disappeared and durable consumer goods were in ample supply, controls should be abandoned rather than be modified with successive liberalization."

"We believe that this point of view is constructive and that the time has already passed when controls should have been removed completely," he declared.

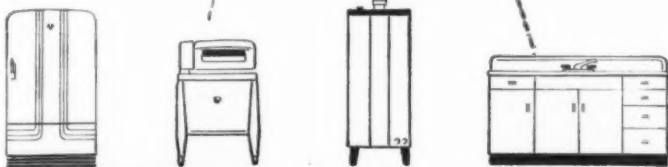
*Sell all types of difficult prospects...*

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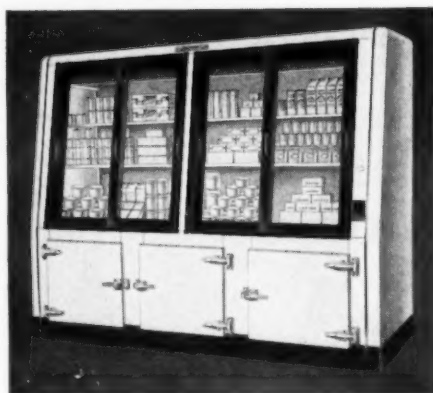
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VOLUME 57, No. 3, SERIAL No. 1,052, MAY 16, 1949

## We're All Responsible

NOT more than one in twelve graduates of our public schools today seems to be well-grounded in American principles, American history, or even in the simple A-B-C's ("progressive" methods of elementary instruction ignore the alphabet). Too many youngsters who seek employment in business firms today are illiterate, fundamentally, according to the testimony of their employers. And that's our fault. We, their parents, have been too busy having fun and trying to make money to bother about what our children are being taught or not being taught.

Communists have infiltrated teachers' colleges during the last three decades. Through their influence, the teaching of American history in our public schools has been squeezed almost out of the curriculum—as has the teaching of American economic principles. And the Communists have gone even further by insinuating their so-called "progressive system" of education into our elementary schools. This system relieves children of drudgery—and drains the blood out of their physiques and psyches. It proceeds on the theory that anything which is difficult should be ignored.

When we were kids, we were forced to concentrate on studies which came hard for us, on the theory that winning tough battles developed character. It did, too. But "taking it easy" undermines character. A generation "educated" under this philosophy will be a soft touch for Communists and foreign invaders.

Teaching American history—to familiarize our future voters with its significant lessons and inspiring purposes—ought to be a major function of our educational batteries. Nevertheless, businessmen encounter an astonishing number of applicants for employment who have only the vaguest notion of the history of the United States. (Incidentally most of them can't even spell well). These youngsters harbor glaring misconceptions of American history and opportunities and manifest destiny whenever quizzed.

Our primary and secondary schools have emphasized the so-called "social sciences" (many of whose textbooks instill worship of Government Planning and Socialism) to the neglect and even to the exclusion of American political and economic history. Even in our colleges and universities the teaching of American history has been so far neglected that several States actually have enacted legislation to compel the teaching of American history to all students. In at least one state where such legislation was passed, its effectiveness was nullified because great difficulty was encountered in securing competent teachers.

Not only are the pupils in our tax-supported grade schools and high schools and colleges and universities deficient in their knowledge of what their country stands for, and how it has achieved world supremacy, but even members of the teaching profession are woefully deficient in their knowledge of—or they're actively deprecating—that precious Heritage and depository of "know how." Instead of hearing about the wonders of our American opportunities and glories, the oncoming generation is being inoculated with the deadly virus of collectivism.

That ignoring of American history, and the total disappearance of truly American philosophy from the curriculum in too many public schools, hasn't happened by accident. Sinister Communist "cells" in our educational abracadabra have fissioned this deleterious, debilitating situation. By keeping our young people ignorant of the proud story of America's Rise, the Communists subvert and weaken our youngsters. They knowingly foster disbelief in the institutions and traditions and "know how" which have made our country the most magnificent Land of Opportunity in all history. Why? So that our kids won't fight back when the Communists launch their World War III.

Every parent and every citizen in our country is responsible for this dangerous state of affairs. If we're too busy to examine textbooks, cross-examine instructors, and appraise the curricula in the schools we pay for, we'll have ourselves to blame.



## Report on Faulty Parts Would Aid Mfr. Planning, Washer Jobber Group Told

CHICAGO—The Appliance Parts Jobbers Association at its annual meeting April 28-30 here widened its program for greater cooperation with manufacturers of washing machines in the matter of parts supply to the industry.

At the meeting were discussed such matters as supply of parts for in-warranty service, installation, and service on automatic washers, and an educational program to service organizations to promote better and more economical washer service.

Among the speakers at the meeting were Bernard J. Hank, president, Conlon Div., Conlon-Moore Corp.; and Ray Hurley, president, Thor Co.

The question of just who is going to service automatic washers and who is to supply parts to the establishments in the field that do the servicing is one that still seems to be up in the air.

It is estimated by some that less than 20% of such retailers as sell washers (all kinds) do their own servicing. The Appliance Parts Jobbers Association estimates that about 65% of the washer parts they sell go to independent servicing organizations.

Some concern has been expressed by producers of automatic washers over the sale of non-genuine parts in the field. One way in which the parts jobbers could help would be to report on defective parts. This would help the manufacturer in setting up replacement part production schedules.

Wesley L. May of Portland, Ore., is the new president of the Appliance Parts Jobbers Association. Other officers are Joseph L. Nagle, St. Louis, first vice president; Lawrence L. Sundberg, Chicago, second vice president; and Wilfrid L. Cloutier, Detroit, secretary-treasurer.

Board members include Daniel J. Phelan, New York; Thomas B. Pritchard, Oklahoma City; Laurence J. Cooper, Sioux City, Iowa; Harry Markow, St. Louis; George E. D. Arcand, Hartford, Conn.; Russell D. Jones, Jr., Harrisburg, Pa.; John C. Voss, Voss Bros. Mfg. Co., Davenport, Iowa; and John W. Krull, Apex Electrical Mfg. Co., Cleveland.

## McGraw Quarterly Net Profit Seen Above '48

CHICAGO—McGraw Electric Co. sales of its appliance products in the first quarter of 1949 were ahead of like period in 1948, it is reported by Max McGraw, president of the company.

"Final results for March, 1949, are not available but, based on results for the first two months of this year, it is estimated that net profit for the first quarter of 1949 will exceed that for the first quarter of 1948," McGraw's statement declared.

McGraw stockholders at the annual meeting May 16, will vote on a proposal to increase the authorized number of shares of common stock. The company stated that it has no present plans for issuance of the additional shares, and that any authorized new stock would be held in reserve.

## Mayhew Moves Up at Anchor Co.

PITTSBURGH—Anchor Distributing Co. has announced the promotion of Fred Mayhew to Philco refrigerator sales division manager.

Mayhew joined Anchor in June, 1938 as downtown Philco sales representative. Formerly with Spear & Co., he has represented Philco products for 2½ years and has been in the appliance business since 1932.

MDD



means

M-O-L-D-E-D

DU-CAL DRIERITE

Watch next issue for  
Remco's announcement

## Consumer Opinion on Reg. W Terms:

## Survey of Minnesota Shoppers Reveals over 50% Feel Present Credit Controls on Appliance Buying Are Fair

MINNEAPOLIS—An exhaustive public opinion survey conducted by the *Minneapolis Tribune* showed that nearly two-thirds of the state's adult shoppers consider the new credit regulation "about right." However, an important 11% said they would be inclined to buy some things immediately if they had even a longer time period within which to pay for them.

Another 9% felt the credit rules, (before the extension to 24 months and 10% down terms) were too strict compared with 65% who felt them about right.

More than half of the people giving qualified answers thought the regulations were all right on appliances, but too strict on automobile purchases. Some of the others thought longer time should be permitted on purchases of "very expensive things." A few said credit

controls should be abolished entirely.

Nearly one-fourth (24%) of the people in the upper economic group felt that the controls aren't strict enough but only 6% of those in the lower economic group offered similar opinions.

In answer to the question: "Are there any things you would buy now if more time for payments were allowed (asked just prior to April 27 credit lift)? 89% said NO while only 9% answered YES.

## Coker Bros. Gets Store Contract

ASHEVILLE, N. C.—Coker Brothers Heating & Air Conditioning Co., here, has been awarded a contract to install heating and air conditioning equipment in Belk's Department Store, Clinton, S. C. The project will cost about \$10,000, it was stated.

Those answering yes (the 9%) said they would buy a car first (3%) while a refrigerator received 2% of the replies, and washing machines 1%. "Other things" brought forth 4% of the replies.

Home furnishings, stoves, and other appliances, farm machinery, and television sets are among the "other things" people said they would buy, given more liberal credit terms.

In answer to the question: "Have you bought anything on instalments since January 1," 1% said washing machines, 2%, stoves, and 1%, automobiles. 8% said other items, while 88% answered NO!

Fourteen per cent of the city residents said they had made purchases on credit since the first of the year, compared with 9% of the town residents and about 10% of the farm people.

## Dept. Store Sales for Week Ending April 30 Fall 4% Below Same '48 Period

WASHINGTON, D. C.—The Federal Reserve Board has reported that department store sales for the week ended April 30 decreased 4% compared with the corresponding week a year ago.

Sales were off the percentages indicated in eight of the 12 districts: New York (8%), Cleveland (4%), Richmond (1%), Chicago (7%), St. Louis (2%), Kansas City (9%), Dallas (12%), and San Francisco (5%).

Increases were reported as indicated by three districts: Boston (4%), Philadelphia (2%), and Atlanta (8%). Results in the Minneapolis district were not shown separately.

For the week ended April 23, total department store sales were off 19% from the same period last year, and for the year to April 30 they were down 3%.

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And when you put it on your floor—feature it in your ads—it will make the kind of headline news that today's thrifty homemakers are looking for. Of course, you'll want to use it as a leader—and it's a "natural"—but you won't have to be afraid to sell it either. This big 1949 Coolerator carries a margin which gives you plenty of room for trading and promotion.

*Now Only*  
**\$219<sup>95</sup>**

### LOOK AT THESE FEATURES

A full 8¼ cubic feet of convenient storage capacity with lots of room for tall bottles and bulky articles.

Space-Saver design—takes up no more room than an ordinary "6"—yet holds 25% more food.

Big built-in frozen food compartment. Separate shelf freezes ice cubes in a jiffy.

Glass-covered Crisp-O-Lator provides generous moist cold storage space for fresh fruits and leafy vegetables.

Choice of right or left hand doors at no extra cost.

Sealed-in-steel cold-making mechanism backed by Coolerator's 5-year warranty.

Prices have been slashed on all 1949 COOLERATOR models. Call your Coolerator Distributor for complete details. Do it now—for more sales—and a *higher* net—in a selling market.

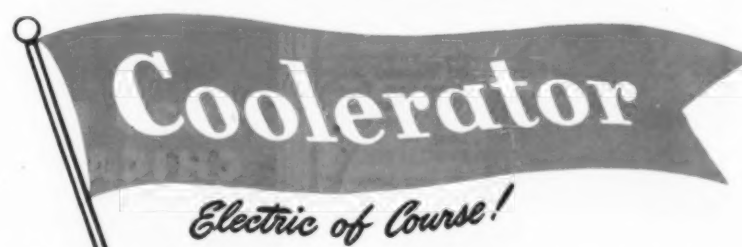
## Coolerator's *Low Priced* Budget Model

## Puts muscles in your Drive for Range Sales!

PRICED AT \$179.95 TO GET TRAFFIC—it's the finest leader model in the industry. Think of it—a full size—soundly featured—beautifully styled—electric range that you can sell for less than \$30.00 down. That's really getting cool, clean, fast electric cookery within the reach of the mass market.

FULL MARGINS FOR PROMOTION—This Coolerator leader model stands on its own feet and gives you the full profit you need to do a shirt sleeve selling job in a 1949 selling market.

FEATURED FOR STEP-UP SALES—Coolerator's Budget Model maintains exactly the right ratio of price to features in order to make the next step-up in the line the natural, easy thing to do in a majority of presentations. It's the kind of a leader you need to increase your sales on top-of-the-line models. Ask your Coolerator Distributor for details on this profit opportunity, and the New Low Prices on All Coolerator Ranges—which reflect Savings Up to \$25.00.



*Electric of Course!*

THE COOLERATOR COMPANY • DULUTH 1, MINNESOTA



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Dial Thermometers  
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WITH SPRAY COOLERS  
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UNIT COOLER



BLAST COILS FOR HEATING & COOLING

**GOVERNNAIR**

## Q. How Can Cool Water from Artesian Well Be Used In an Air Conditioning System?

Nanticoke, Pa.

Dear Mr. LaSalvia:

I have been following your articles in "Key to Air Conditioning" in the NEWS. We have in our locality artesian wells. Can the cool water be

used in air conditioning? During the hottest days the temperature of the water from these wells is approximately 52°. If you have any diagrams on spray combinations I would appreciate them.

FRANK SHEEDOR

## A. Running 52° Water Through Coils Will Reduce Amount of Refrigeration Needed

If you are getting 52° F. temperature water from artesian wells in the hottest of days in your district, you are blessed with something that many people in this country would like to have but cannot. A lot of cooling can be done by using 52° water and refrigeration can be saved in practically all cases except where

there is an extremely heavy latent load, such as theaters, restaurants.

In these you can use the split system of mostly water and some refrigeration. In all other cases refrigeration can be practically eliminated, as long as the dewpoint temperature of the air leaving the coils is above 57°.

The selection of water-cooling coils with various water temperature applications has been clearly described in the Sept. 20, 27, Oct. 4, 11, 18, 25, Nov. 1, and 8 issues of the NEWS. As water coils cost less than air washers, I would recommend them.

Take for example, Problem No. 1, as worked out in the Sept. 27 and Oct. 4, 1948 issues. By using the same amount of water, water rise, and face area of coil, and using 52° water instead of 62°, then the only change would be in Step No. 7 in finding the M.E.D.

Air In	83°	Air Out	74°
Water Out	68°	Water In	52°

15

The M.E.D. is 18.  
Then Step No. 9:  
84,584 B.t.u.

= 1.88 or 2 rows.

140 x 17.9 x 18

In this case a two-row coil would be used instead of the three-row coil.

Take Problem No. 2 in the Oct. 18, 1948 issue:

By using the same amount of water, water temperature rise, and face area of coil, and using 52° water instead of 62° F., then the only change would be again in the M.E.D. as in Step No. 4:

Air In	95°	Air Out	65°
Water Out	65°	Water In	52°

30

The M.E.D. is 20.  
Then Step No. 6:  
279,000 B.t.u.

= 5 rows.

162 x 20 x 17.9 x .98

In this case by using 52° water a coil with five rows deep would meet the condition instead of the 12 rows.

Take Problem No. 3, Oct. 25, 1948 issue.

Again using the same amount of water, water temperature rise, and face area of coil, and using 52° water instead of 46°, then again the M.E.D. changes as in Step No. 6.

Air In	83°	Air Out	59.8°
Water Out	62°	Water In	52.0°

21

The M.E.D. is 13.  
Then Step No. 9:  
216,044 B.t.u.

= 6.3 rows

160 x 17.9 x 13 x .92  
or 7 rows.

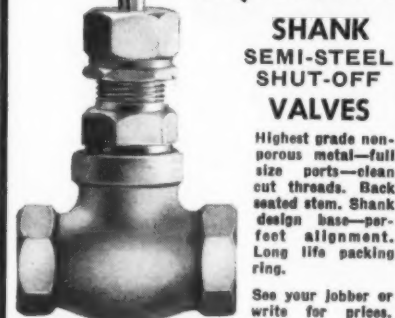
In this case a seven-row coil would be used for 52° F. water temperature instead of the five-row coil for 46° water.

With this information and by following the articles in the NEWS as per type of job, you should be able to do a lot of cooling with 52° water.

JAMES J. LASALVIA

**SHANK REFRIGERATION PRODUCTS**

Most Dependable



CYRUS SHANK CO.

631 W. JACKSON BLVD., CHICAGO 6, ILL.

## Steady North Wind To Help Cool Hospital On West Coast

FRESNO, Calif.—A 3-stage air conditioning system will be an outstanding feature of the new 250-bed hospital which the Veterans Administration will construct here shortly, it has been announced by the local VA office.

The hospital, to be constructed in North Fresno, will incorporate 100-tons of air conditioning capacity, including cooling for all wards, operating rooms, executive offices, lobby. "Vertical ventilation" will be featured throughout, with a series of compressors assigned specific zones through the hospital for combatting high summer heat loads in the San Joaquin Valley.

The air conditioning system will be built to take advantage of a strong north wind, blowing consistently most hours of the day.

## New Southern Dealer Named for Westinghouse Air Cooling Line

SHREVEPORT, La.—Wright's Nu-Enamel-Westinghouse Store at 726 Milam St., has been named exclusive dealer in this area for Westinghouse air conditioning units. This firm is owned and operated by Harold Wright.

## Pipe Expansion Joints Covered In New Bulletin

MAYWOOD, Ill.—"CMH Expansion Joints," bulletin EJ-49, is a new illustrated bulletin just published by Chicago Metal Hose Corp., Maywood, to give engineering and product information to operating and engineering personnel in industrial fields dealing with piping where pressure and temperature extremes exist, and where pipeline expansion under working conditions is a prime consideration.

Information contained, covers both "Free-Flexing" and "Controlled Flexing" corrugated type expansion joints in copper and stainless steel construction.

Copies of this bulletin will be furnished to persons who have a direct interest in expansion joints.

**MDD**

means

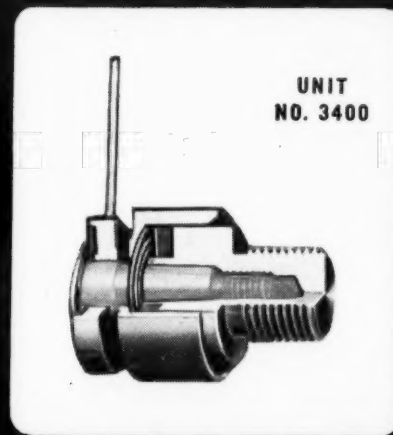
M-O-L-D-E-D

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Watch next issue for  
Remco's announcement



**KRAMER TRENTON CO. Trenton 5, N. J.**



## ROTARY SEAL REPLACEMENT UNITS

✓ Simple in Construction ✓ Easy to install  
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all these important features in 18 years of time-tested,  
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MORE THAN  
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MONTREAL 28, QUEBEC, CANADA



### How Wet Bulb and Condensing Temperature Affect Capacity of Evaporative Condenser

(For 40° F. Evaporator Temperature)

Condensing Temperature	Entering Air Wet-Bulb Temperature				
	60°	65°	70°	75°	80°
10° F. ....	1.60	1.42	1.28	1.11	1.00
20° F. ....	1.39	1.24	1.09	.92	.81
30° F. ....	1.20	1.05	.89	.72	.62
40° F. ....	1.00	.86	.70	.54	.42

## Evaporative Condenser Can Conserve 95% of Water Used by Water-Cooled Systems

By C. Dale Mericle

MONTREAL, Que., Can.—With communities both large and small facing possibly serious water shortages and having sewage systems inadequate to cope with the greatly increasing use of water, the evaporative condenser has become of intense interest to the air conditioning and refrigeration industry, emphasized Irving Bodine, sales manager of KeepRite Refrigeration, Ltd., in a talk given at the tenth annual educational conference of the Interprovincial Association, Refrigeration Service Engineers Society, here recently.

"Evaporative condensers, which came into their own in the 1930's when comfort cooling became popular, can conserve approximately 95% of the water normally used for condensing purposes," Bodine declared, adding that "the public generally will be skeptical of this claim."

To illustrate this saving, Bodine explained that with a water-cooled condenser a temperature rise of 15° to 30° in the condensing water would mean a pickup of 15 to 30 B.t.u. per lb.

With an evaporative condenser, however, complete evaporation would result in 1,000 B.t.u. pickup per lb.

of water, he said. Thus, the ratio of heat absorption by straight water cooling to that by an evaporative condenser is 30 to 1,000, or 3%, representing a saving of 97% of the water, less losses, which generally figure another 2%, he pointed out.

Describing the operation of such a unit, Bodine pictured how water is sprayed down over a coil containing the hot, compressed gas from the compressor. The water collects at the bottom of the evaporative condenser in a tank, which is fitted with a float valve to admit more water when necessary, an overflow, and a pump which circulates water from the tank back up through the spray nozzles.

Air is pulled in at the bottom above the tank and forced up through the refrigerant coil, past the nozzles, and through eliminators which keep water losses at a minimum, and thence exhausted by the fan in the top section.

The refrigerant gas is condensed by the process of evaporating water on the coil.

"Assume that the air entering the evaporative condenser is at 75° F. wet bulb," Bodine continued. "The water passing over the coil will approach this 75° F. wet bulb. The refrigerant gas coming into the coil, we'll say, has a condensing temperature of 95° F."

"The water passing over the coil will pick up heat from the refrigerant and increase its (the water's) temperature. As the water drops from the coil it comes in contact with the air being forced through the unit. Some of the water evaporates and so cools the rest of the water dropping into the tank. Soon the average temperature of the water being circulated in the evaporative condenser may become 85°."

Selection of evaporative condensers is not difficult, Bodine asserted.

"Most manufacturers have charts, curves, and tables that show the necessary data. The three basic factors to be considered are the wet-bulb temperature of the entering air, the condensing temperature, and the evaporating temperature of the refrigerant."

To explain how the capacity of an evaporative condenser is affected by the factors of entering air wet-bulb temperature and condensing temperature, Bodine showed the accompanying table for "Freon-12" with a 40° evaporator.

The table shows that in general

the greatest capacity is obtained with the highest condensing temperature in combination with the lowest entering air wet bulb.

While the suction temperature of the system has some effect on the capacity of an evaporative condenser, it is comparatively slight, Bodine indicated.

"Over a range of from -20° F. suction temperature to +40°, the capacity factor rises from .83 to 1.0," he said. "Of course, with low suction temperatures you have to put more refrigerant through the evaporative condenser to get the same capacity."

In connection with maintenance of such a unit Bodine declared that an evaporative condenser "must be treated as a piece of plumbing equipment in some respects."

"Provision must be made to prevent freeze-ups of the water tank during winter, for example."

He also described the conventional face by-pass damper control arrangement for winter operation so that as the outside air temperature drops (or the refrigerant pressure falls correspondingly), some of the discharge air is by-passed back to the air intake.

"Because the fan and water pump on an evaporative condenser are usually belt-driven, these belts can be expected to break eventually. Short cycling of the unit may result if either the fan or pump belt breaks," he said.

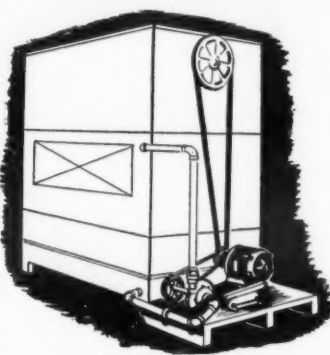
"Another problem encountered with evaporative condensers is the condition of the water being circulated through them. With some types of water scale may form. Scale is a good insulator, and it usually begins

to form at the coil inlet—the point of highest refrigerant temperature—and then continues out on the coil. This scale formation cuts the heat transfer capacity of the coil.

"There are a number of water-softening devices that have been successful in keeping scale formation at a minimum," Bodine explained. "Applications of water softening will vary considerably, depending on the type of water," he added in cautioning not to expect to use the same treatment for all applications.

Location of the receiver tank is another important consideration, he indicated, explaining that "the receiver should be located in the same temperature as the unit."

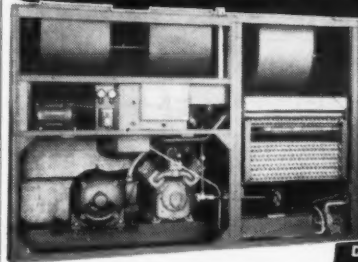
"Also, where should the evaporative condenser be purged, I like to purge as close to the inlet as possible. Some say you can purge from the receiver, but that's not my personal preference."



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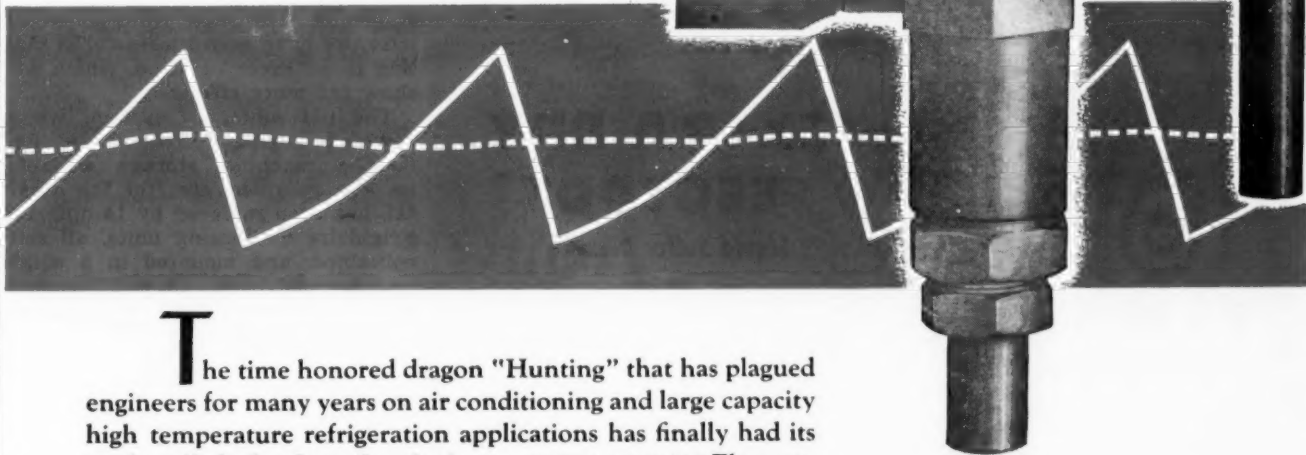
Deliver the Best Service on Air Conditioning and Refrigeration Units—Customers appreciate longer life—quiet, smooth operation of these cool-running, higher quality V-Belts—Stock MANHATTAN FHP for light drives, CONDOR for multiple groove drives. You get convenient catalog and complete Service Aids.

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The time honored dragon "Hunting" that has plagued engineers for many years on air conditioning and large capacity high temperature refrigeration applications has finally had its teeth pulled; thanks to Sporlan's new FLOW MASTER Element.

In spite of careful design, hunting is inherent in many applications due to the physical dimensions of the evaporator, and the relationship between the evaporator, compressor and expansion valve.

Now your worries over hunting that causes alternately flooded and starved evaporators are over!

How does the new Sporlan FLOW MASTER Element do it? Through the use of Sporlan Thermal Ballast (Patent applied for).

How do you get them at no extra cost?... Just be sure to order Sporlan valves with Type G Thermostatic elements. All Sporlan Type G elements are now standard equipped with this amazing new feature.

Remember... Just as you have reduced hunting for many years on all refrigeration installations below 35° F. by using Sporlan Type C and Z charges, you can now be sure of maximum evaporator capacities with negligible hunting on all air conditioning or large capacity high temperature refrigeration applications when you install Sporlan Thermostatic Expansion Valves with the new FLOW MASTER element.

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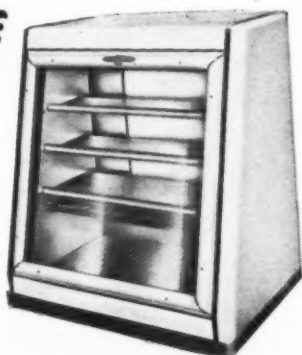
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1/4 H.P. air-cooled unit of standard manufacture \$54.00



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40 WEST 40TH ST., NEW YORK 18, N. Y.

## Textile Mill Air Conditioning System Uses Spray Pond Instead of Cooling Tower

*Lighted by Night, Pond Fits Mill's Landscape Theme*

ABERDEEN, N. C.—Constant temperature through all seasons of the year, with varying ranges of relative humidity best suited to the demands of rayon processing, is said to be provided in the ultra-modern air conditioning system installed by Carrier Corp. in the new plant of Robbins Cloth Mills, Inc. here.

The new mill is reportedly one of the most modern structures of its kind in the nation, one story high and designed for long, straight production lines, with a wing for offices. It will be devoted entirely to the manufacture of spun rayon cloth.

The air conditioning installation for the main mill area comprises nine separate air handling systems, with a total distribution capacity of 637,600 c.f.m., the equivalent of 137 tons of air per hour. Refrigeration is provided by a huge Carrier centrifugal refrigeration machine equipped with a 1,250-hp. synchronous motor.

All of the areas conditioned in the plant are maintained at 80° dry-bulb temperature throughout the year by automatic controls, regardless of outside climatic conditions, according to Carrier.

Each of the separate manufacturing areas is served by its own individual air-handling system, which is designed to maintain a range of

relative humidity best suited to the textile operation taking place within that area.

Operations such as opening and picking, carding, spinning, twisting, preparatory, weaving, and cloth room, each requires varying degrees of relative humidity to assure peak efficiency. Offices and rest facilities are maintained at comfort condition levels.

All but one of the air-handling systems apparatus rooms are located in penthouses on the mill roof, thus permitting additional production space. The exception is the machinery for the opening and picking room, small in size by comparison, and located in a corner of that area.

Combining utility with landscaping, a spray pond was used on this installation instead of a cooling tower in the refrigeration cycle. The pond, flood-lit with multi-colored lights at night, is the central theme of the landscaping design.

The only mill production area not completely air conditioned is the slasher room. A large warehouse, an integral part of the mill structure, is also heated and ventilated with Carrier heat diffusers.

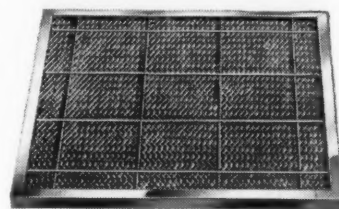
Biberstein & Bowles of Charlotte, N. C., are the architects and engineers.

## New Firm Joins Detroit Group

DETROIT—Board of directors of the Refrigeration Contractors Association of Detroit recently approved the membership application of L & P Refrigeration Service, 2627 Norwalk St., Hamtramck, Mich. Leo Rutkowski of the company was given a class A membership.

## Your Air Cleaning Costs take a

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And here's why you get cleaner air with R-P E Z KLEEN: Dirt, dust, soot, pollen are literally scrubbed out of the air by multi-layered expanded Alumalloy sheets scientifically staggered to make thousands of adhesive-coated, dust-holding baffles. This unique baffle-pattern sets up a violent turbulence throughout the complete depth, providing highly effective depth-loading, higher dust-holding capacity, yet low resistance build-up.

Prove to your own benefit how R-P ALUMALLOY E Z KLEEN Air Filters pay for themselves in savings! Write for your copy of new Techni-Data sheet.

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**RP** FILTERS . . . for FINER LIVING

## After 22 Years Denver Dealer Finally Gets Hospital Contract

DENVER—Snodgrass & Smith, Frigidaire commercial refrigeration dealer at 1941 Market St. here, is feeling especially pleased over a "Freon"-compressor refrigeration installation made at the Presbyterian hospital at 19th and Gilpin Sts. here—for the new installation, replacing an old ammonia system "took 22 years to sell," according to Clarence Smith, partner in the firm.

"I bid on the original refrigeration installation myself," Smith, who has been merchandising refrigeration and air conditioning in the Denver area since 1927, pointed out. "Despite all my sales efforts, however, the ammonia system won out, and was installed in late 1927. Now, 22 years later, we have been successful in putting in a 'Freon' system, which will show far more efficiency."

The old ammonia system, which powered kitchen refrigerators, ice-making machine, storage cabinets, ice storage room, etc., for the hospital, has been replaced by 14 different Frigidaire condensing units, all self-contained, and mounted in a single "compressor room" in the basement of the hospital.

All except 4 of the units are installed in two banks for ready service, each identified with signs, which explain its operation, the equipment which it services, etc. Thus "waiting 22 years" was not too long for the Denver dealer.

## Zeller's, Ltd. Includes Air Cooling In Remodeling Program

HAMILTON, Ont., Can.—A new air conditioning system is being installed in Zeller's Ltd., as part of a \$350,000 remodeling program. A penthouse on the roof will provide storage space for refrigeration and other equipment.

## Rockport Refrigeration Opens

ROCKPORT, Tex.—Rockport Refrigeration Service, owned and operated by Ernest Harist, has opened.

**COLD-IN** Your Golden Opportunity is here!!!

- VEGETABLE CASES
- COLOR VISION FREEZERS
- FULL VISION CASES
- FORMICA TOP DISPLAY CASES IN PORCELAIN
- DAIRY WALL CASES

**COLDIN CABINET CO., INC.**  
2800 Webster Avenue, Bronx 58, N. Y.

## Sweeney Sells Steinhorst Line In 4 Eastern States

SPRINGFIELD, Mass.—Daniel C. Sweeney of Springfield has joined the sales force of Emil Steinhorst & Sons, Inc., reports Henry Steinhorst, president of the Steinhorst firm.

He will act as sales representative in the distribution of Steinhorst milk freezers and milk coolers throughout Massachusetts, Maine, Vermont, and New Hampshire.

Sweeney was formerly consulting engineer with Indian Motorcycle Co.

**Model 2 FDI**  
**25 Cubic Foot**

**Model 2 FDF (Blower)**  
**Also Available**

Reach-In refrigerators from 20 to 45 cu. ft. with either blower or ice cube maker coil.

**Model 6-9**  
**ADD-TO**  
**Storage**  
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Special sizes of Storage Refrigerators now available.

**Manufacturers Agents**  
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**"V-METH-L"**  
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**"EXTRA DRY ESOTOO"**  
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SERVING INDUSTRY FOR 50 YEARS





## Philco's 'Greatest' Promotion



To stimulate dealer interest in the National Philco Refrigerator Week window display contest, Philco Distributors, Inc. of Philadelphia has sent out the above suggested layout. Fifty national prizes plus individual distributor prizes for the best window are being offered.

## It's Murder!

SYRACUSE, N. Y.—Lee's Appliances, 630 N. Salina St., promoted a combination sale of a washer and ironer at \$99.50 with an unusual newspaper advertisement headed by the caption:

"Sh-h-h... It's Murder. We can't mention the name of these two nationally-known products—2 for the price of 1."

## Kelvinator Net Earnings Hit \$7 Million for Quarter

DETROIT — Nash-Kelvinator reports net earnings after taxes of \$7,136,524, equal to \$1.64 per share for the second quarter ended March 31 of its 1949 fiscal year.

It was a record quarter for the corporation both in unit and dollar sales volume as well as in earnings. The net earnings compare with \$5,859,289, equal to \$1.35 per share for the previous quarter and \$4,751,848 equal to \$1.09 per share for the like period of 1948.

For the six month period, net earnings after taxes were \$12,995,814, equal to \$2.99 per share, against \$10,392,823 equal to \$2.39 per share for the comparable period a year ago.

Sales for the first six months were \$180,521,625 compared with \$143,536,317 for the same period of the preceding year.

Kelvinator and Leonard unit and dollar sales are running above last year, the report said.

## Westinghouse Names Linss To Retail Finance Post

PITTSBURGH — Appointment of Henry W. Linss to the new position of assistant manager of the Retail Finance Div. of the Westinghouse Electric Corp. has been announced by George G. Main, treasurer.

Linss has come to Westinghouse after 14 years with the Marine Trust Co. of Buffalo, where he was assistant credit manager.

According to C. F. Gilbert, manager of the division, Linss' principal nationwide activity will be directed toward calling on banks to further assist them in the adoption of the Westinghouse Equity Plan. The Plan, which was announced last September, encourages the financing by local banks of appliances, radios, television sets, and other Westinghouse products which lend themselves to installment selling.

"With such assistance offered by Mr. Linss," Gilbert said, "banks will be more easily able to adapt the Equity Plan to their standard banking procedures with their existing facilities."

## Lee's Refrigeration Set Up

BUFFALO—A business name has been filed in the Erie County clerk's office for Lee's Refrigeration, 149 Eisman, Kenmore, N. Y., by Linus G. Murdock.

## Gets New Name



## Driscoll To Distribute 'Wilson' Domestic Box

CHARLOTTE, N. C.—Plans for the distribution of the "Wilson" household electric refrigerator have been announced by L. W. Driscoll of L. W. Driscoll, Inc. here.

In 1948 the Charlotte firm distributed a refrigerator called the "Dris-Cold." It was manufactured by Wilson Refrigeration, Inc., and when the Wilson plant was destroyed by fire, promotion of the Dris-Cold model was stopped.

With Wilson in full production in a new plant, Driscoll is continuing with his plans to market the household unit, but will sell it under the Wilson name.

The model has 10.2-cu. ft. capacity, but measures only 58 in. high, 30 in. wide, and 29½ in. deep. It will retail for around \$269.50, Driscoll says.

"Presently, our plans call for distribution on a direct-to-dealer basis to a select dealer clientele throughout the country," says Driscoll, who has operated a refrigeration distribution business in the Carolinas since 1927.

The Wilson refrigerator has a frozen food storage compartment with a capacity of 15.6 lbs. of frozen foods. A conditioner drawer with removable glass cover provides proper storage for all types of fruits and vegetables.

Cabinet is insulated with 3 in. of semi-rigid Fiberglas insulation. Refrigeration is furnished by a ¼-hp. Tecumseh condensing unit.

## H. L. Johnson Represents 'Refrigerator Week' Offers Coolerator In Southeast

DULUTH, Minn. — Herschel L. Johnson has been appointed Coolerator district manager for the southeast, reports William C. Conley, Jr., Coolerator sales manager.



H. L. Johnson

Prior to this appointment, Johnson was Coolerator electric range specialist for the South. He was formerly associated with Hotpoint, Inc. for 11 years as a field representative throughout the southeast.

In his new position, Johnson will supervise the sale of Coolerator refrigerators, electric ranges, and home freezers in Georgia, Florida, North Carolina, and South Carolina.

## Garrett Features Mitchell Line

CORPUS CHRISTI, Tex. — J. B. Garrett of Garrett Plumbing Co., 1343 Staples St., recently announced that his company is now featuring Mitchell room conditioners.

## Engineer, Refrigeration

To assume full responsibility for design and development of Commercial display equipment. Knowledge of mass production and tooling necessary. Position on West Coast. Give full details.

Box 3174, Air Conditioning & Refrigeration News

## WILSON REFRIGERATION, INC.

- FARM AND HOME FREEZERS
- REACH-IN REFRIGERATORS
- WALK-IN REFRIGERATORS
- FARM MILK COOLERS

DIVISION OF WILSON CABINET CO., INC. SMYRNA • DELAWARE

## FOR SALE

SURPLUS STOCK UNIVERSAL REFRIGERATOR COMPRESSORS PRICED SUBSTANTIALLY BELOW FACTORY COST NEW IN ORIGINAL CRATES

Number on Hand	Model Number	H.P.	Air or Water Cooled	Motor Voltage	Price
3	33FS	½	Air	110-220	\$ 80.00
2	50FS	½	Air	110-220	90.00
4	75FS	¾	Air	110-220	130.00
2	150FS	1½	Air	110-220	210.00
1	150WFS	1½	Water	220	230.00
9	200WFS	2	Water	220	250.00

F.O.B., Albert Lea, Minnesota  
Motors all Single Phase—60 Cycle  
Not Equipped with Dryers or Gas Charge  
Subject to Prior Sale

UNIVERSAL MILKING MACHINE DIVISION  
ALBERT LEA, MINNESOTA

PHILADELPHIA—National Philco Refrigerator Week, claimed to be the greatest promotion in Philco's history, will open May 16, Raymond B. George, Philco sales promotion manager, has announced.

Heart of the promotion is the offering of a 35-piece dinner set with the purchase of each 1949 model refrigerator or freezer. In addition, Philco dealers are offering a free water chiller for "just coming in to see" the units.

Another feature of the promotion is an offer of 48 packages of frozen food, at no extra cost, with the purchase of a Philco freezer.

George said that Philco dealers have already contracted for 7,650,000 mailing pieces, 510,000 water chillers, and 53,000 sets of the Jade-ite dinnerware.

As an added incentive to the dealers, a "Conservador" window display contest is being conducted during the promotion with 50 cash prizes to be awarded. The prizes put up by the manufacturer, range from a \$1,000 first prize and \$500 second prize through three \$250 prizes, five \$100 prizes, 10 \$50 prizes, and 30 \$5 prizes.

George said that Philco distributors are also awarding local prizes for the best window in their territories. Originality and ingenuity in arrangement and display will be the main factor in selecting winners, he declared.

Major merchandising piece of the campaign is a four-page direct-mail tabloid, with dealer imprint, to be mailed to almost 8,000,000 homes.

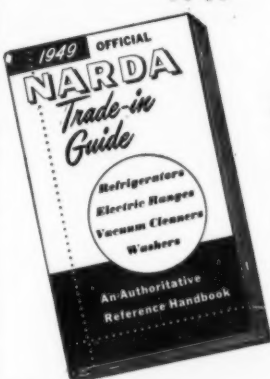
Newspaper advertising, radio and television spot announcements, and the Don McNeill "Breakfast Club" radio program are being used to merchandise the promotion.

Point-of-sale display and window display material for Philco Refrigerator Week include colorful banners, streamers, pennants, and counter displays.

## Blankenship Air Conditioning Supply Is Chartered In Texas

WICHITA FALLS, Tex.—Blankenship Air Conditioning Supply Co., here, has been granted a charter, for a 20-year term with \$20,000 capital. Incorporators are: H. B. Blankenship, Sr., H. B. Blankenship, Jr., and L. R. Emerson, Jr.

A money maker for you in 1949



ORDER YOUR COPIES TODAY!

## Official NARDA Trade-in Guide Four Guides in One

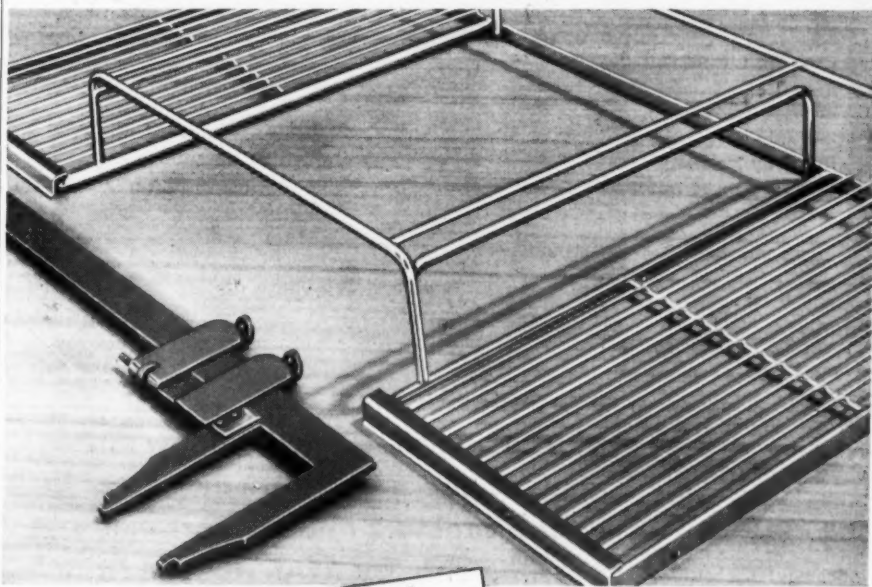
Covers refrigerators, electric ranges, vacuum cleaners and washers. Trade-ins will be a big factor in your 1949 business. With the official NARDA Trade-in Guide you can meet trade-in problems with confidence and profit. Order now, get your copy at once.

1 to 5 copies \$5.00 each  
6 to 25 copies 4.00 each

## NARDA Guide Company

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SPECIFICATION  
*United! because it's Accurate*

Welded wire assembly for a modern refrigerator to hold crisper tray and form side shelves beside the freezing unit.

Here at United we think of accuracy, not in terms of approximate dimensions or angles, but in terms of quick assembly on your own production line so that you get rapid production without rejects. In the above assembly there are 7 critical dimensions, 4 points where the shelf attaches to the cabinet, width of the crisper tray slide at front and back, and clearance on the tray. To hold all these dimensions with a material as flexible as welded wire takes accurate jigs and plenty of "know how." When you require a welded wire part where accuracy is needed, bring your problem to United, where the meaning of accuracy is understood, down to the last detail.



**UNITED STEEL AND WIRE CO.**

150 FONDA AVE., BATTLE CREEK, MICHIGAN

SPECIFY  
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WHEN YOU NEED

**VALVE PLATES**

ALL DELAVAN VALVE PLATES NOW FURNISHED WITH GASKETS

**DELAVAN MANUFACTURING COMPANY**  
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DU-CAL DRIERITE

Watch next issue for Remco's announcement



# What's New



## Temperature Transmitter Permits Remote Recording

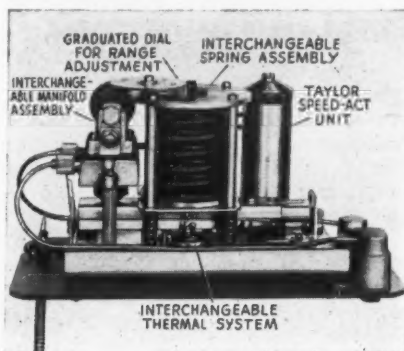
ROCHESTER, N. Y.—A new force-balance type pneumatic temperature transmitter called the Taylor Transaire with Speed-act was recently announced by the Taylor Instrument Co., here.

This new instrument is designed for those applications where it is desirable to have the indication, record or control remotely located from the point of measurement and where it is necessary to have accuracy, high speed of response, small thermal elements and short range spans within the limits of minus 375° and plus 1,000° F., the manufacturer declared.

The new instrument incorporates Speed-act which applies the principles of Pre-Act or derivative action directly to temperature determination, an entirely new measurement technique developed by Taylor.

Speed-act overcomes the lag inherently present in the response of any form of thermal measuring element.

Whenever pneumatic temperature transmission can be used advantageously, (usually when the distance between point of measurement and location of recording or controlling mechanism is 50 ft. or more), the Taylor Transaire instruments provide an unusually responsive and dependable means for the detection of process temperature variations, the company claims.



Taylor Transaire

"Employing advanced force-balance principles, its output in p.s.i. is proportional to the temperature of its thermal element, and by means of 1/4-in. o.d. copper tubing, this pressure change can be transmitted to a recording or controlling receiver remotely located as far as 1,000 ft. away, and even farther depending on conditions," the company stated.

Other features of the temperature transmitter include: Fixed air output range of 3 to 15 p.s.i. for full temperature span in linear to 0.1% assuring repeatability of readings; compensation for barometric and ambient temperature changes to assure constantly accurate performance; and interchangeable unit assemblies so that over-all operating limits of the instrument can be changed.

Mounting brackets are provided for pipe or wall mounting, or an adjustable bracket is supplied when the instrument is used with a separable bushing.

a 3/4-in. wood frame covered with stainless steel.

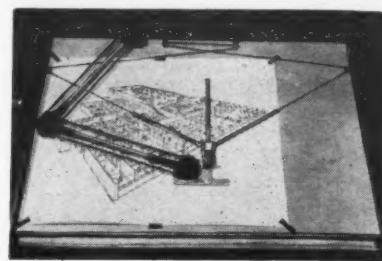
The cabinet is insulated with fiber glass (4 in. on sides and top, 5 in. on the bottom). Sides and bottom are sealed against moisture penetration with vaporproof tape, while the top is covered with vaporproof paper and sealed with tape.

Dimensions of the storage compartment are 66 1/2 in. by 19 in. by 22 in. Of steel construction with welded seams, the compartment is formed of fabricated serpentine plates.

The lids are constructed of two pieces of "double strength" 1/4-in. glass with 1/4-in. air space between. They are sealed with vaporproof tape and enclosed with 1/2-in. stainless steel moulding.

The case is powered by a 1/3-hp., twin-cylinder, open-type condensing unit. Other parts of the refrigeration system include a thermostatic expansion valve; a thermostatic control mounted in the condensing unit compartment, with built-in alarm circuit; a silica gel dehydrator, and seamless copper tubing with all joints flared or silver soldered.

Finish of the case is baked white enamel.



## New Drafting Device Aids Making Equipment Layout

CHICAGO—Development of a new instrument for draftsmen which is claimed to simplify the making of perspective drawings for some air conditioning or commercial refrigeration layouts has been announced by the Charles Bruning Co., Inc., 478 Montrose Ave., here.

Called the "Perspect-O-Metric" the device attaches to any standard drafting machine, and is available for attachment to parallel ruling straight edges. It has three scale arms. The central one is fixed in a vertical position; the left and right scale arms pivot at one end and swing in the plane of the drawing board.

Two vanishing points are provided, and by means of pulleys and piano wire springs, the swinging arms are held in strict alignment with the vanishing points, the company claims.

Graduations on the swinging scales are diminished towards the ends to keep dimensions in proportion. Right and left brake levers are also provided to lock swinging arms in position while the line is being drawn.

## Either Gas or Electricity Operates Clothes Dryer

FT. WAYNE, Ind.—A new clothes dryer for operation with either electricity or gas has been introduced by Horton Mfg. Co. here.

Feature claimed for the Horton dryer is that it is possible to "dial" the dryness desired, with the operator setting a control dial for damp dry or fluffy dry and the dryer stopping automatically when the clothes have reached the degree of dryness selected. Only other control is a starting button.

It has a capacity of 9 lbs. of dry clothes or 20 lbs. of wet clothes.

**NOW AVAILABLE FOR DELIVERY**

1/2 TON AND 3/4 TON

## MITCHELL Room Air Conditioners!

### IMPORTANT

GREATEST COOLING CAPACITY of any 1/2 ton and 3/4 ton units on the market is established by tests made by United States Testing Company in accordance with applicable standards published by American Society of Refrigeration Engineers.



A wonderful small unit that fits easily in any window... plugs in like a radio... and gives all the coolness and comfort made possible only by REAL Air Conditioning

Powerful, quiet running hermetically sealed power plant provides more cooling for the money. Removes oppressive moisture, and filters dust and dirt from the air. Will remove 99.9% of pollen from air—a real boon to hay fever sufferers.

You'll sell the MITCHELL Room Air Conditioner like any major appliance package—no big organization required. Just two models handle all types of rooms. Your market is unlimited—with every office and home in your community a prospect. Write for the full selling details today.

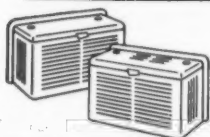
**DEALERS! NOW IS THE TIME to get started.** Send today for the complete profit-plan that shows you how to earn big money selling MITCHELL Room Air Conditioners.

Air Conditioning Division  
MITCHELL MANUFACTURING COMPANY  
2525 N. Clybourn Ave., Chicago 14, Illinois

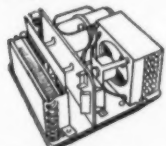
Rush us full information on opportunity to profit quickly and easily with MITCHELL Room Air Conditioners.

Name.....  
Firm.....  
Address.....  
City..... State.....

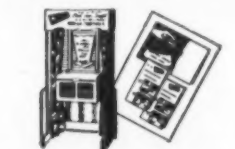
MAIL COUPON NOW



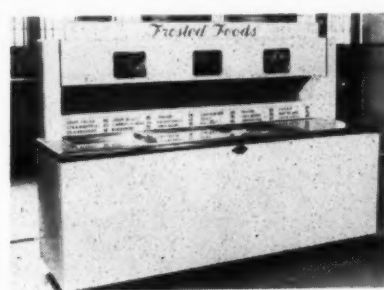
With just two handsome models, you can sell top-efficiency air conditioning for all types of rooms—against all competition. Model M-12 (3/4 H.P.) delivers 5880 BTU/hr. Model M-34 (3/4 H.P.) delivers 8876 BTU/hr.



MITCHELL units are acclaimed by famous Testing Laboratories, Utilities and leading experts in the field. Each unit carries MITCHELL'S 5-YEAR WARRANTY.



MITCHELL backs you to the limit with every type of selling aid—mailing folders, display stand, newspaper mats and extensive national advertising—everything you need to help you sell easier and profitably.



## 18-Cu. Ft. Case for Frozen Foods Rolls on Casters

PHILADELPHIA—Introduction of a new 18-cu. ft., self-contained frozen food display case was announced recently by Cold Products, Inc. here, manufacturer of Springhouse commercial freezers.

Identified as model 18SC, the case measures 91 in. long by 27 1/2 in. deep by 34 in. high, exclusive of the superstructure, which is 30 in. high. Capacity of the case is 630 lbs. (based on 35 lbs. per cubic foot).

Mounted on ball-bearing casters, the cabinet has an all-steel chassis and panels, a removable steel grille in the rear panel, and a louver on the end panel for condenser air intake. Top of the cabinet consists of

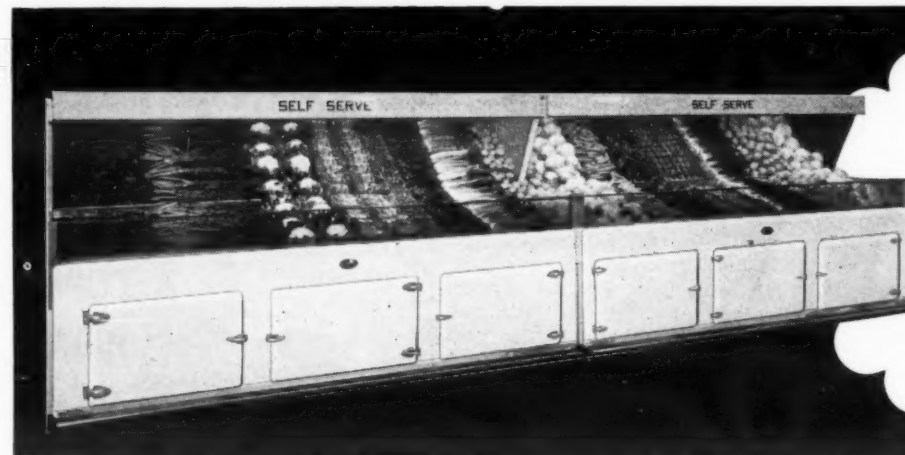
## 8-Drink Dispenser Can Be Serviced Without Moving

CINCINNATI — The Dairy-Mart milk and soft drink dispenser, embodying many new features, is being placed on the market by Cedar Hill Farms, Inc., of this city, after nine years of experimental work.

The all-enclosed unit, with sealed refrigeration, and manually operated with gravity feed, has no electrical gadgets. From one to eight different products can be dispensed through the eight doors, and each dispensing trough holds 80 units, with reserve storage space for 300 additional units.

Dispensing troughs are easily removed and replaced, it is claimed, and the accessible interior makes it possible for a serviceman to clean 25 or more boxes a day.

The dispenser occupies only 30 by 41 in. of floor space, and because it is serviced from the top, it requires no space allowance at the back or sides for service doors.



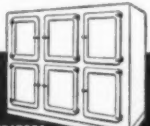
## For Single or Continuous Display of Dairy Products, Produce or Meats

Small, medium or large stores—all are prospects for the Sherer Model UL-2610 Self Serve Display. You can sell it singly or in multiples of two, three or more for display of dairy products, produce, or meats. Well-known Sherer quality plus ten outstanding features make UL-2610's easy to sell...

a repeat sales builder... and the biggest value your customers' money can buy. Multiply the sales opportunities of UL-2610 by the 39 other nationally advertised Sherer models of all types and sizes and see why a Sherer franchise will build your volume, profit and reputation.



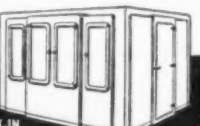
MEAT DISPLAY CASES



REFRIGERATORS



SELF-SERVE CASES



WALK-IN COOLERS

SHERER-GILLET COMPANY

Marshall, Michigan

WRITE FOR BULLETIN AND FRANCHISE INFORMATION

## LOOK to LARKIN for Low Prices



### LARKIN CEILING HUMI-TEMP

Price is only one factor in the selection of any product—especially one that has so important a task as protecting valuable perishables. Performance must come first. Quality cannot be overlooked. Durability is highly important. Larkin has all of these. And Larkin has low prices, too. Compare them and see for yourself how low they really are.

For the latest Larkin price list, see your wholesaler. If you wish, write direct to us and we shall be glad to send you one.

Manufacturers of the original Cross-Fin Coil — Humi-Temp Units — Evaporative and Air Cooled Condensers — Air Conditioning Units and Coils — Direct Expansion Water Coolers — Steel Vacuum Plate Coils — Heat Exchangers.

WATCHDOG OF THE NATION'S FOOD SUPPLY  
**LARKIN COILS**  
519 MEMORIAL DR., S.E. - ATLANTA, GA.

**NEW**  
Model UL-2610  
**MULTIPLIES**  
SALES  
OPPORTUNITIES



## What's New (Con't)



### Kitchen Fan Provides Non-Turbulent Airflow

PITTSBURGH—Claimed to be the only kitchen exhaust on the market that contains a vaneaxial fan, the Joy Axivane kitchen exhaust has been introduced recently by the Joy Mfg. Co. here.

According to the company, "vaneaxial fans produce a non-turbulent airflow which is less affected by duct resistance. They are, therefore, more efficient and quieter than other types of fans."

The fan is made of lightweight, fire and acid resistant, molded plastic. The motor is completely protected by the fan itself. The exhaust is also equipped with a grease filter.

The fans come in three models. One is for ceiling mounting, which requires ductwork to the outside. The other two are for mounting on an outside wall, the only difference between them being the length of the built-in sliding duct. One is for walls of from 5½ to 8 in. thick and the other for walls 8 to 12 in. thick.



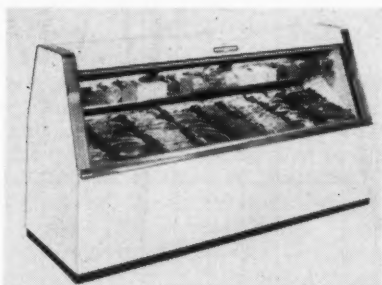
### Hollywood Table Broiler Designed for 3-Way Use

CHICAGO—The Hollywood electric table broiler, a plug-in table cooking appliance that can be used in a variety of ways, is being offered by Finders Mfg. Co., 3669 S. Michigan Ave. here.

The heating element is in the top or "lid" of the broiler, and the bottom is convertible for three methods of cooking:

(1) a rack for broiling steaks, chops, and fish; (2) a platter for heating canapes and ham slices, and for making toasted sandwiches and broiled eggs; (3) by reversing the lid and placing the grill-tray over the heating element, for grilling eggs, pancakes, hamburgers, etc.

The heating element is removable for cleaning. The Hollywood broiler has two heats: high, 1,100 watts; low, 600 watts. It measures 18 by 10½ by 6 in. over-all, and shipping weight is 9 lbs. The device has Underwriters Laboratory approval.



### Frigidaire Cases Come In 6, 8, and 10-Ft. Sizes

DAYTON—A new line of remote-type, double display cases featuring double-deck display space above and storage room below has been introduced by the Frigidaire Div. of General Motors Corp.

The new cases are produced in six, eight, and 10-ft. lengths, the manufacturer said.

The display section of the new cases is equipped with a mezzanine shelf of heavy ribbed glass, sectioned to facilitate removal and adjustment up and down in six positions. The main display shelves feature a choice of two display angles.

Increased glass area provides a free, unobstructed view of the interior from almost every angle of the customer's approach, the company said. The triple-paned glass front is slanted and hermetically sealed.

Fluorescent lighting illuminates the display section while an incandescent lamp supplies automatic lighting in the storage compartment.

Constructed of heavy gauge steel, the top and front of the case are comprised of two layers of steel. All joints are welded and sealed. The top and front panels of the exterior casing are finished in white porcelain. The remainder is finished in baked white enamel.

To facilitate cleaning, interiors are white enamel with the entire bottom finished in black porcelain. Removable floor racks afford extra protection. White porcelain platters are included.

The sides, ends, bottom, and doors are insulated with three inches of fibrous glass while two inches of insulation covers the top.

The display section is equipped with two gravity-type cooling units insuring proper temperature and humidity. A single unit cools the storage compartment.

Hinged hardwood work boards and adjustable scale shelf equipped with a wrapping paper cutter are accessories.

The six-foot model has a total shelf area in the display section of 15.64 sq. ft., including the mezzanine shelf, and 16 cu. ft. of storage space below.

The eight-foot model has 21.4 sq. ft. of display area and 22 cu. ft. of storage space. The 10-ft. case has 27.16 sq. ft. of display area and 28 cu. ft. of storage space.

The new cases can be operated by either reciprocating or rotary-type Meter-Miser compressors in remote location.

### Ice Cuber Has Outside Entrance to Storage Box

NEW YORK CITY—Featured by an "outside entrance" cube storage compartment, a new ice cube maker bearing the "Penguin" trade name has been introduced here.

Refrigerated Equipment Sales Corp., 19 W. 44th St. here, headed by Charles Q. Sherman, president, is the exclusive manufacturer's sales agent for this product, and will franchise all distributors and dealers.

The cube maker is equipped with 24 quick-release trays, producing 336 large-size cubes at a single freezing. Service storage container is made



Penguin ice cube maker.

of stainless steel and is removable. Separate door of storage compartment eliminates opening of ice cube section to get reserve supply of service ice cubes.

Each plate in the freezing section is of the full-flooded type and metalized throughout. A ½-hp. condensing unit in either the hermetic or open type furnishes the refrigeration. An accessible drain makes possible simplified cleaning after each defrosting.

The design is such as to permit it to align with all other bar fixtures; it does not extend into aisle space. It measures 20 in. deep, 29½ in. high, 38 in. wide. Finish is in green baked Dulux, according to the company announcement.



replace it right with **Ranco**

### Tested and Proved for WATER COOLERS,

If you're looking for the dependable, trouble-free kind of service that means more satisfied customers and more profits for you, then rely on craftsmen-built Ranco Replacement Controls for Water Coolers. The complete line of Ranco Controls includes a type and model designed and built to meet your specific requirements. Check with your Ranco wholesaler first!



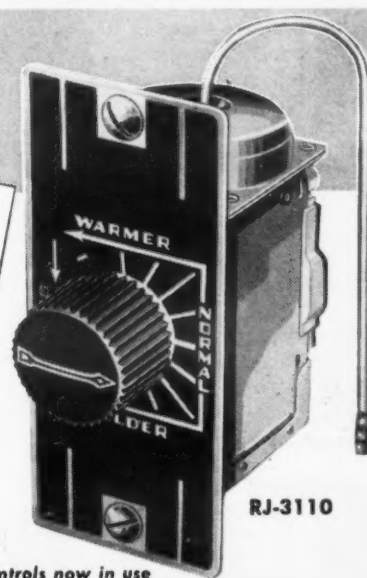
**Ranco Inc.**

COLUMBUS 1, OHIO

World's Largest Manufacturers of REFRIGERATION CONTROLS—more than 20,000,000 controls now in use

CHECK WITH **Ranco** FIRST.

- specialists in refrigeration
- dependability
- greater customer satisfaction
- less stock to carry
- more profit to you



## HOW TO MAKE CUSTOMERS STOP AND SHOP

Use **BTC** Portable Display Case with 3-Dimension Color

### FROZEN FOODS

SPECIFICATIONS:  
Model DC6-2D  
Capacity, 5½ cu. ft.  
23½" Wide x 38" Long  
Cabinet Height: 36"  
Over-all Height: 54"  
Motor 110-120 V.  
Hermetic Compressor.

Fruits	
STRAWBERRIES	49
PEACHES	52
FRUIT SALAD	44
CRANBERRIES	39
BLUEBERRIES	47



Vegetables	
GREEN BEANS	32
SPINACH	34
CORN ON COB	40
CAULIFLOWER	33
SUCCOTASH	36



Here's the modern way to merchandise frozen foods—a portable display case you can move where you want with a full-color 3-dimensional food picture to turn buying impulses into sales.

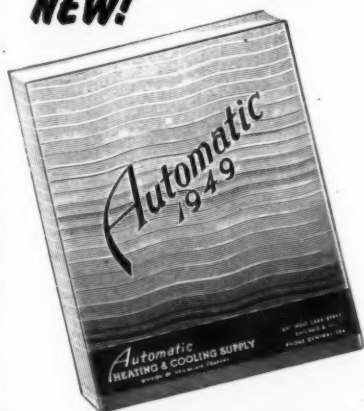
The new BTC Portable Display Case, Model DC 6-2D, is small enough to fit practically

anywhere, yet holds 190 average frozen food packages; low-level superstructure is fluorescent lighted with three dimensional color; two price panels; stainless steel trim; Santocel insulation, vapor-sealed and smooth rolling casters.

Write for details on profitable BTC Distributor Franchise.

**THE BREWER-TITCHENER CORPORATION, BINGHAMTON, N. Y.**

**NEW!**



### Years For The ASKING-

It's here—the new 1949 AUTOMATIC Catalog—162 pages chock full of profit-making items for the heating and cooling field. It's up-to-date, and can be kept that way with AUTOMATIC's new service that you get FREE, when you get our catalog.

Wholesale only, the 1949 AUTOMATIC Catalog will be sent to you FREE, if you will write us on your business letterhead, or fill out attached coupon and pin to your letterhead. Export inquiries invited. Send for YOUR copy NOW.

**Automatic Heating & Cooling Supply**  
Div. of WEIL-McLAIN CO.  
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AUTOMATIC HEATING & COOLING SUPPLY  
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means

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Watch next issue for  
Remco's announcement

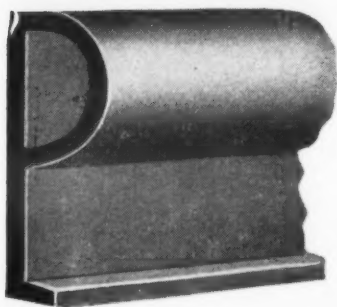


## TECHNIFLEX Refrigeration Specialties

are especially designed to provide IMPROVED refrigeration accessories. Using only quality materials and workmanship, you will find they develop new standards of satisfaction from your customers.

Ask your regular dealer for these items or send for bulletins.

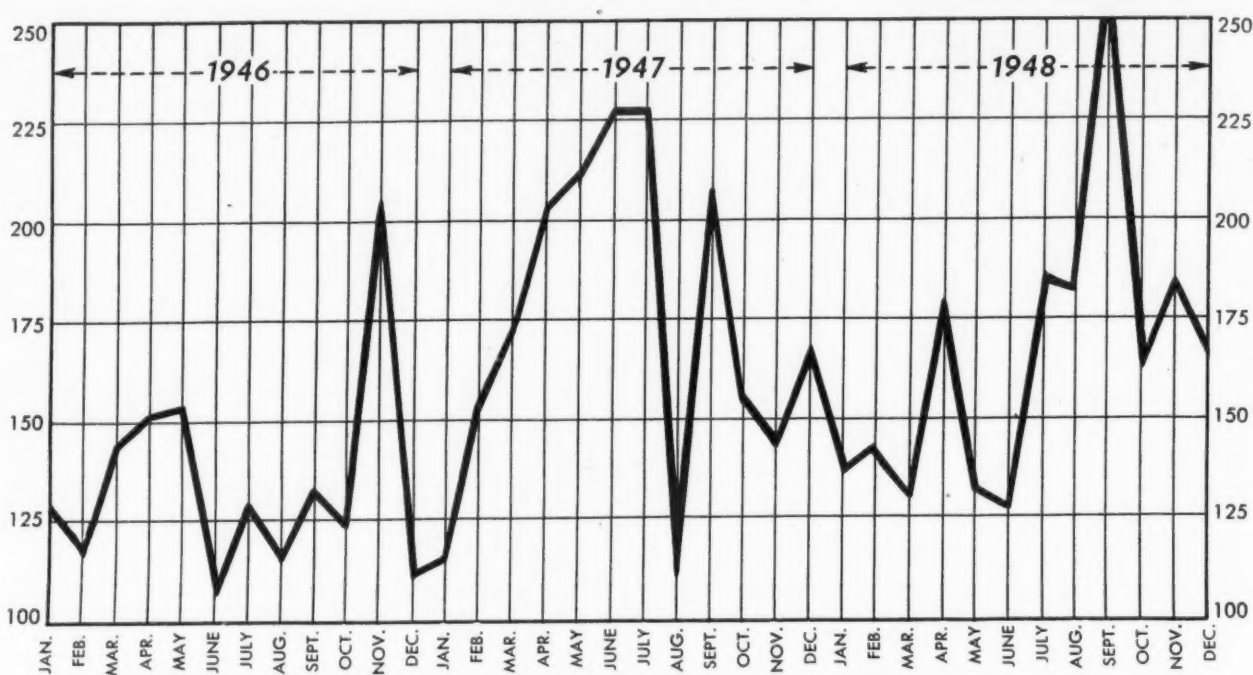
Illustrations at right—top to bottom:  
Improved Charging Line  
Vibration Eliminator  
New Door Gasket Notcher  
Techniflex Gaskets



# TECHNIFLEX CORP.

49 JERSEY AVENUE, PORT JERVIS, N.Y.

## 1,987 Commercial Installations In Detroit During 1948 Reflect Heavy Selling Effort



Graph indicates relatively small difference between sales in 1948 and those made the previous year.

DETROIT—Although it was generally agreed that by the beginning of 1948 the commercial refrigeration industry had returned finally to a buyer's market, there was actually little change in the amount of commercial equipment installed in the city of Detroit during 1948 as compared with 1947.

In 1948 there were 1,987 condens-

ing units installed for remote systems in Detroit, as compared with 2,093 which went in during 1947, according to data compiled by AIR CONDITIONING & REFRIGERATION NEWS from permits issued by Detroit's Department of Buildings and Safety Engineering.

Percentagewise this means that 1948 sales amounted to 95% of 1947 installations, indicating that there was just about as much "selling" done last year as there had been "buying" during the preceding year.

The data presented here for 1948, as did the material covering 1947 and 1946 presented in the NEWS last year, not only shows the total installations for the year, but also breaks down these figures into the number of each size sold each month of the year, compares the sales of all the makes of condensing units in Detroit for a three-year period, shows the type of establishment where the equipment was installed, and lists the number of contractors involved, showing how many units each installed, and the percentage of the total.

Best month for sales in Detroit during 1948 was September, when permits were issued for 251 remote condensing unit installations. This figure is the largest chalked up for a single month in Detroit during 1946, 1947, and 1948, the previous high having been 228 units recorded in June and July of 1947.

Next best month in Detroit last year was July when 187 units were installed, but sales in three other months were very close behind—November with 185, April with 184, and August with 183. At the low end of the list was June with 127. The latter figure, incidentally, is higher than the low months of the preceding two years, when June sales in 1947 amounted to 107, and August installations totaled 105 in 1947.

As for the most popular size of condensing unit, the 1/2-hp. unit with 395 installations continued to lead the list in 1948, as it had the previous two years. The 1/4-hp. machine (with 388) and the 3/4 (with 384) were close behind, however.

(Continued on next page)

## The Fine '49 ESCO Line

"BUILT LIKE A BATTLESHIP"

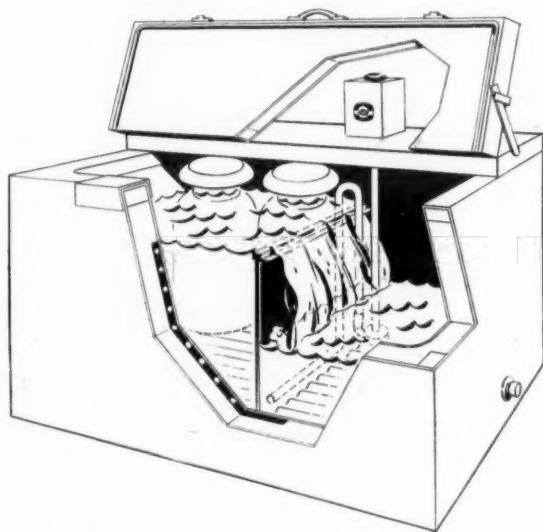
ESCO Products have enjoyed the reputation of sturdy "BattleShip" construction for more than 20 years. This built-in quality makes the ESCO Line easier to sell.

### MILK COOLER LINES

The amazing Model "AD" ESCO "NIAG-RA" Line with its smooth "Icy-Wall" interior and exclusive patented Automatic "Neck-High" Water Leveler... the finest Milk Cooler made.

The exclusive Model "VD" ESCO "Icy-Wall" Line with its perfectly smooth "Icy-Wall" liner and controlled ice bank... no competition in this line.

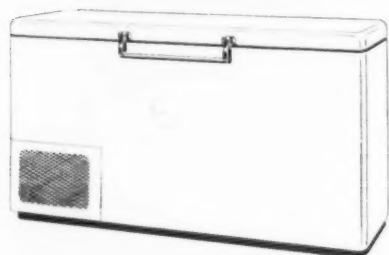
The standard Model "V" ESCO Line meets any competition—noted for its durable "BattleShip" construction.



### FARM AND HOME FREEZER LINES

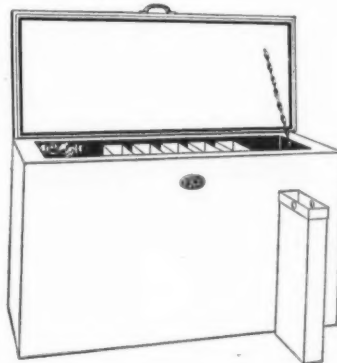
Models from 10 to 40 cubic feet. A size for every prospect. Smart styling... Rugged construction... Tops in efficiency... Built-in-Signal and Fast Freeze Fan—PLUS

5 Year Food Warranty  
5 Year Protection Plan



### ESCO ICE MAKERS

The ESCO Ice Maker Line (75 to 2000 lbs. daily) provides capacities to meet the needs of hotels, hospitals, country clubs, and restaurants of all sizes.

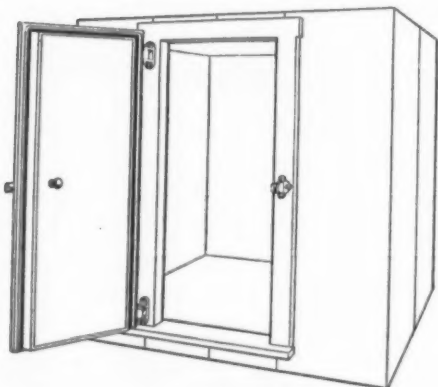


### 5-YEAR PROTECTION PLAN

All ESCO Equipment packaged complete with Sealed Units carries a 5-year Protection Plan.

### ESCO SECTIONAL COLD ROOMS

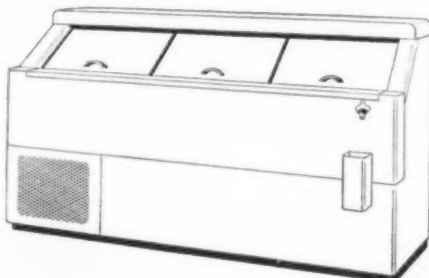
Three standard Models (or to order for special sizes) provide the answer for the growing demand for easy-to-install, walk-in, cold storage facilities. Standard panel sections permit later expansion and provide flexibility.



Dealers and Distributors are invited to write for detailed information and specifications on the PROFIT-MAKING ESCO LINES

### ESCO DELUXE BEVERAGE COOLERS

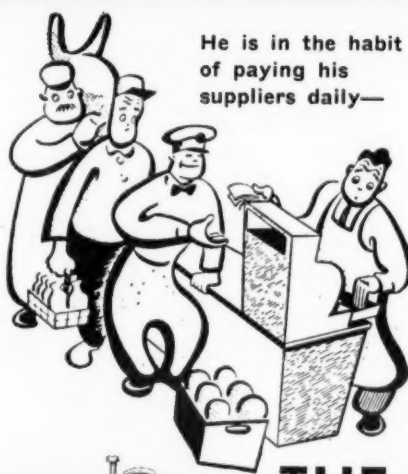
ESCO Beverage Coolers provide dry storage with efficient controlled forced air cooling. Real business-builders for clubs, cafes, restaurants... Convenient slide-away lids, bar height top.



ESCO CABINET COMPANY • West Chester, Penna.

HOW WOULD YOU  
SELL REFRIGERATION  
TO THE PROSPECT WHO SAYS

I NEED NEW  
EQUIPMENT  
BUT I DON'T HAVE  
THE MONEY  
FOR IT



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suppliers daily—

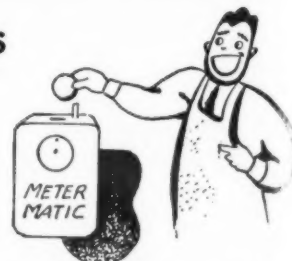
As a result, at the  
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is not enough left  
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## Popularity of 11 Makes Increased In 1948 While 7 Others Fell Below 1947 Ranking

Number of Remote Commercial Installations by Size In Detroit For 1946, 1947, 1948

Size In H.P.	1946	1947	1948
1/2	396	329	388
1	416	510	395
2	263	415	384
3	263	384	352
5	110	173	166
10	80	112	90
15	29	56	80
20	28	36	47
Over 5	31	78	85
Total	1,616	2,093	1,987

(Continued from preceding page)

The largest machine installed last year in Detroit was a 400-hp. job.

Comparing the sales in Detroit by make, the accompanying tabulation indicates that the top brand has kept that position for three straight years, although sales have dropped slightly. The second-ranking make has maintained that position for two years, having been third in 1946, while the third-ranking make (which was second in 1946) showed a sharp gain in sales in 1948 over those made the previous year.

Of all the makes listed, 11 recorded a gain in relative popularity during

1948 while seven fell below their 1947 ranking.

A study of the number of contractors who handled these installations shows that during 1948 a total of 140 firms put in the 1,987 machines. This is a gain of four over the 136 handling the 2,093 units in 1947.

While this increase is too slight to be of much significance, it is interesting to note that the leading contractor in 1948 fell considerably back of the leading firm in 1947 both in number of units and percentage of the total installations.

Contractor A in 1948 put in 136 machines or 6.84% of the total, while in 1947 Contractor A had installed 230 machines representing 10.9% of the year's total installations.

Only one unit separates Contractor B from the leader, according to the 1948 figures, the second firm having installed 135 machines for 6.80% of the total.

At the low end of the list there were 33 contractors who installed one machine apiece during 1948, compared with 39 who put in one each the previous year.

In 1948 there were 21 firms installing two each, 10 installing three each, eight installing four each, and four installing five each.

A study of the tabulation showing

Installations by Make of Remote Commercial Machines In Detroit During 1946, 1947, 1948

1948 Ranking	1946 Sales	1947 Sales	1948 Sales
A	419	415	373
B	161	316	309
C	236	188	259
D†	100	174	149
E†	108	114	129
F	88	185	128
G†	52	48	108
H	48	96	102
I	102	132	92
J†	44	45	67
K	33	86	55
L	12	40	28
M	12	36	24
N†	19	28	20
O†	12	23	17
P†	22	14	17
Q†	11	24	17
R	19	19	15
S	12	30	15
T†	*	*	12
U†	*	8	10
V	8	10	6
W	4	9	5
X†	*	*	4
Y	*	*	3
Others	47	37	23

Total 1,616 2,093 1,987

\*Included in "Others."

†Denotes higher ranking than in 1947.

-Denotes lower ranking.

where all these remote condensing units were installed in Detroit during 1947 and 1948 should prove interesting. The data for 1948 reveals that these installations were made in 1,590 establishments, as compared with 1,665 in the preceding year. In all,

(Concluded on next page)

### Where Remote Commercial Machines Were Installed In Detroit In 1947 and 1948

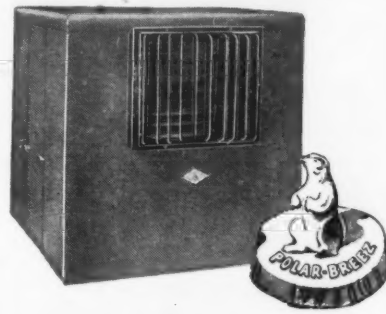
Establishment	1947		1948	
	No.	Units	No.	Units
Apartment house	13	18	7	7
Aquarium	1	1	1	3
Bakery and bakery shop	38	42	45	45
Banana storage	1	1	5	9
Bank	1	1	1	1
Beer store	29	30	29	29
Blood bank	1	1	1	1
Bottle cooling	1	5	1	1
Bottling plant	1	1	3	3
Bowling alley	7	7	5	5
Brewery	3	3	4	5
Cafeteria	9	21	9	25
Candy manufacturing	1	1	3	3
Caterer	3	3	3	3
Chemical manufacturing	1	1	2	2
Church	3	3	1	1
Cigar factory	1	1	1	1
Club	7	11	13	27
CO <sub>2</sub> manufacturing	1	1	1	1
College dormitory	1	1	1	1
Commercial (unspecified)	1	1	16	17
Confectionery	32	32	40	51
Convent	1	1	3	5
Courthouse	1	1	1	1
Dairy	6	12	5	5
Dairy bar	16	22	7	11
Dairy store	12	16	1	1
Department store	7	11	1	17
Dog food store	1	2	1	1
Dress shop	1	1	1	1
Drug manufacturing	5	6	4	20
Drugstore	41	62	19	48
Electroplating shop	1	1	1	1
Exhibit	1	1	1	1
Factory	7	11	3	3
Fish market	1	1	5	5
Fish wholesaler	2	2	1	1
Florist	41	41	41	43
Food processing	7	12	6	6
Food store	829	908	691	857
Food wholesaler	13	18	24	27
Frog market	1	1	1	1
Fur vault	5	5	1	1
Greenhouse	1	1	1	1
Hall	6	6	4	4
Hospital	17	24	11	28
Hotel	4	4	5	5
Ice cream manufacturing	12	14	5	8
Ice plant	1	1	4	5
Institution	8	12	1	1
Laboratory	4	4	3	4
Locker plant	1	3	1	1
Malt processing	1	1	1	1
Meat casing manufacturing	1	1	1	1
Meat packer	6	8	12	15
New stand	1	1	1	1
New paper office	1	2	1	1
Office	4	4	6	6
Orphanage	1	1	1	1
Photo studio	2	2	1	1
Prison	1	1	1	2
Restaurant	117	243	227	277
Paper manufacturing	1	1	1	1
Sales room	1	2	1	1
Sausage manufacturing	4	4	1	1
School	3	3	4	7
Sprout farm	1	1	1	1
Stadium	1	1	1	1
Storage	3	4	3	3
Store (unspecified)	28	30	20	22
Tavern	192	214	234	262
Telephone exchange	1	2	1	1
Theater	3	3	10	10
Truck refrigeration (stationary)	3	3	1	1
Union hall	1	1	1	1
Unknown	85	87	29	29
Warehouse	10	10	4	5
Winery	1	1	1	1
Yeast storage	1	1	1	1
Total	1,665	2,093	1,590	1,987

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Shell and Coil type for use with FREON and Methyl-Chloride—for installations 1/2-ton to 50-tons. Acme Heat Exchangers increase the capacity of all cooling systems.

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with a load carrying, 2-pole construction—actually two switches in one. And you pay no premium for this extra value. Ask your wholesaler or write for Bulletin 2652 describing this versatile new control. **Penn Electric Switch Co., Goshen, Ind. Export Div.: 13 E. 40th St., New York 16, U.S.A. In Canada: Penn Controls Ltd., Toronto, Ontario.**

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FOR HEATING, REFRIGERATION, AIR CONDITIONING, PUMPS, AIR COMPRESSORS, ENGINES, GAS RANGES

### DEALERS - DISTRIBUTORS WANTED!

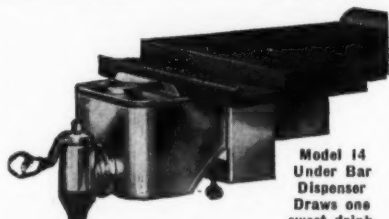
If you are prepared to handle sales, installation and service for our stainless steel soft drink Dispensers for Bars and Taverns, advise business experience and some facts relative to your financial ability.

#### INCREASES PROFITS FOR BARS AND TAVERNS

Exceptionally profitable to handle. — Write to

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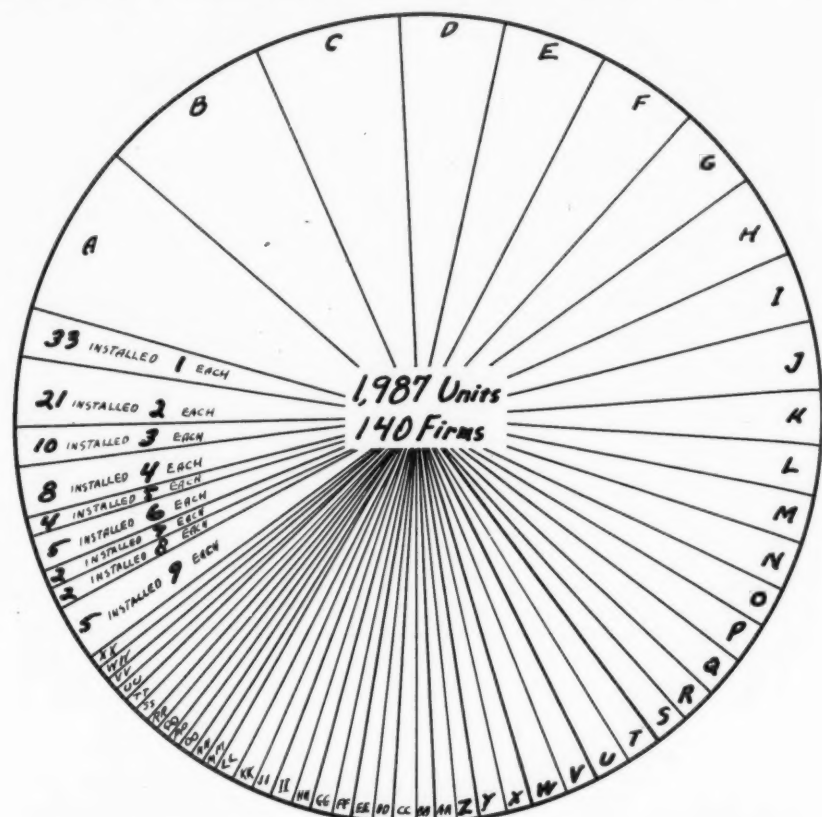


Model 14 Under Bar Dispenser Draws one sweet drink and seltzer

### How Contractors Ranked In Installation of Remote Commercial Machines In Detroit In 1948

Contractor	No.	%
A	136	6.84
B	135	6.80
C	115	5.79
D	85	4.28
E	83	4.18
F	81	4.08
G	69	3.47
H	65	3.27
I	56	2.82
J	55	2.77
K	46	2.32
L	42	2.11
M	41	2.06
N	40	2.01
O	37	1.86
P	35	1.76
Q	34	1.71
R	31	1.57
S	31	1.57
T	29	1.46
U	29	1.46
V	27	1.36
W	26	1.31
X	24	1.21
Y	23	1.16
Z	19	.96
AA	19	.96
BB	19	.96
CC	19	.96
DD	19	.96
EE	18	.91
FF	17	.86
GG	17	.86
HH	16	.81
II	15	.75
JJ	14	.70
KK	14	.70
LL	14	.70
MM	13	.65
NN	11	.55
OO	11	.55
PP	11	.55
QQ	11	.55
RR	11	.55
SS	11	.55
TT	11	.55
UU	10	.50
VV	10	.50
WW	10	.50
XX	10	.50
5 Installed 9 each	45	2.26
2 Installed 8 each	16	.81
2 Installed 7 each	14	.70
5 Installed 6 each	30	1.51
4 Installed 5 each	20	1.01
8 Installed 4 each	32	1.61
10 Installed 3 each	30	1.51
21 Installed 2 each	42	2.11
33 Installed 1 each	33	1.66
Total 140	1,987	100.00

### 3 Detroit Contractors Account for Nearly 20% of Commercial Installations In 1948



Pie chart shows how Detroit contractors divided up installations.

(Concluded from preceding page)

57 different categories are represented in the 1948 sales.

As would be naturally expected, more installations were made in food stores than in any other type of establishment, 857 machines going into 691 stores.

Second in number of units installed was the restaurant category, 277 machines being installed in 227 restaurants. Close behind were bars, cocktail lounges, and taverns (listed under the latter term) with 262 machines going into 234 establishments.

A wide variety of establishments is represented in the list, including such places as the city aquarium, where three machines were installed last year to cool water supplied to tanks of fish, an electroplating shop, a greenhouse, convents, a winery, and numerous others as listed.

In analyzing all the data presented, it must be remembered that the figures concern remote-type installations only, for which the City of Detroit requires that permits be taken out by the contractor.

Thus, there is no accurate means

of checking on the sales and installations of self-contained commercial equipment. Permits were taken out during the year for the installation of 127 pieces of self-contained commercial equipment by independent contractors. This figure, however, probably comes nowhere near being the total of such installations, so it was not included in the 1948 tabulations, which like those of 1947 and 1946 are limited to remote systems.

Also not included in the data are the sales and installations made by the seven ice cream companies operating in the city. Last year these firms took out permits covering 363 condensing units for remote and self-contained systems handling ice cream cabinet and soda fountain installations. Most of these permits were for rebuilt equipment.

This, too, does not give a true picture of the refrigeration equipment installed by ice cream companies. A rough estimate of the sales of ice cream cabinets in the Detroit area, based on reports of two major suppliers, would indicate that at least 1,000 such cabinets were sold and installed here during the year.

### 1948 Remote Commercial Installations by Size by Month

Month	1/4 hp.	1/2	3/4	1	1 1/2	2	3	5	5*	Total
January	25	34	21	30	11	4	1	1	11	138
February	29	25	24	19	20	4	10	5	8	144
March	23	32	17	20	11	6	5	9	7	130
April	31	48	33	35	12	3	6	10	6	184
May	26	24	24	30	10	8	2	1	6	131
June	29	30	26	14	13	3	5	2	5	127
July	48	43	38	33	8	10	1	1	5	187
August	32	30	40	32	17	7	12	8	5	183
September	51	43	57	41	19	12	10	4	14	251
October	37	24	33	22	11	9	17	1	8	162
November	29	36	36	43	15	10	7	3	6	185
December	28	26	35	33	19	14	4	2	4	165
Total	388	395	384	352	166	90	80	47	85	1,987

\*Includes 17 7 1/2-hp. machines, 15 10 hp., 20 15 hp., eight 20 hp., one 25 hp., six 30 hp., four 40 hp., one 50 hp., three 60 hp., five 75 hp., and one each of 100, 150, 250, and 400 hp.

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WHOLESALE ONLY



## Refrigerated Tuna Fleet Begins Voyage

HOUSTON, Tex.—A modern new fishing fleet, equipped with seaplanes, two-way radio, and extensive refrigeration facilities, set out on its maiden voyage this spring from Houston, to ply the tuna waters of the Pacific.

Mother ship of the fleet is a converted Navy LST, which has refrigerated storage space with a capacity of 1,700 tons. The vessel carries two Piper Cub seaplanes which are used to spot schools of tuna.

The fishing ships of the fleet are three converted Navy minesweepers. All the ships and the two planes are equipped with two-way radio to coordinate direction of their movements.

All the ships are refrigerated and more than 60 tons of wrought iron pipe were required for the brine coils installed in the refrigeration systems.

The fleet is operated by the Oceanic Foods Co. Although most tuna fleets operate out of west coast points, company officials said expenditures can be outfitted more economically at Houston and have a shorter distance to travel to the tuna areas.

The fleet will reach the Pacific via the Panama Canal and each voyage is expected to last three and a half months.

## 135-Room Hyde Park Hotel Will Be Air Conditioned

MIAMI BEACH, Fla.—Installation of the \$100,000 central system of air conditioning is underway at the Hyde Park hotel. By mid-June the entire 135-room hotel will be completely air conditioned.

Considered by observers as a fine example of "landlord and lessee" relations, the Hyde Park hotel is being air conditioned with the combined cooperation of the Jacobs family and the Hyde Park Hotel, Inc., and will remain open all year.

According to Sam Hamilton, consultant engineer, and Lucian St. Onge, chief engineer of the Hill-York Co., 130 tons of air conditioning equipment are being added to the 30 tons (\$17,000) previously installed, to make a total of 160 tons (\$117,000).

## Airo Supply Promotes Bernens To Post of Business Manager

CHICAGO—Announcement is made by E. P. Sorensen, president of Airo Supply Co., that C. J. Bernens, who has served for two years as office and credit manager, has now been promoted to the position of business manager.

Carl Formento continues as purchasing agent, a post to which he was advanced several months ago after having served as an assistant in the purchasing department for several years.

A new catalog, now in preparation, will be released in approximately 60 days.

## Refrigeration Supplies Buys Akron, Ohio Firm

CLEVELAND—Refrigeration Supplies, Inc., refrigeration supplies and equipment wholesaler here, has purchased Akron Refrigeration Supplies, Inc., of Akron, Ohio, and will continue to operate the Akron supply firm.

James H. Downs, president of Refrigeration Supplies, Inc., states that he will put into the Akron operation the complete lines handled at the headquarters in Cleveland.

"This is not an expansion into a new territory for us, but rather better coverage in an area which we formerly served from Cleveland," Downs stated.

Joe S. Moore and Bert Armstrong, principals in Akron Refrigeration Supplies, Inc., will continue to run the Akron operation, and have been made members of the board of directors of Refrigeration Supplies, Inc.

## Electric Products Distributes Fleetwood In 6 N. Y. Counties

POUGHKEEPSIE, N. Y.—Electric Products Inc. here, distributor of York Corp. refrigeration equipment, has also taken on distribution of the Fleetwood Airflow line of refrigerated display cases.

Electric Products will distribute the Fleetwood Airflow line in the area of New York state from Westchester to Hudson, which embraces six counties.

## Dairy Installs Plastic Foam In Second Truck

RICHLAND CENTER, Wis.—Plastic foam insulation four inches thick has been installed in a large delivery truck owned by the Clarson Dairy Products Co., independent ice cream manufacturer located in Richland Center.

The plastic foam, known as Flotofoam, is over 99% air and less than 1% solid. It is made by United States Rubber Co. in both shredded and block form. It weighs from six-tenths to one pound per each cubic foot.

The plastic foam insulation in the large Clarson delivery truck was installed in two layers of blocks, each one 15 in. square by two inches thick.

This is the second delivery truck the Clarson Dairy Products Co. has insulated with Flotofoam. Last summer it operated a smaller truck with a capacity of about 1,000 gallons of ice cream.

## Commercial Dealer To Replace Fire-Gutted Sales Dept. Soon

LOWELL, Mass.—Harry Lampert, president of the Middlesex Supply Co., local dealer, has announced that the company's refrigeration sales department will be considerably expanded in the \$250,000 building now under construction.

The new building replaces one of the company buildings which was destroyed in a fire last July, Lampert stated.

## Ontario Distributor Pays Visit To Baker Refrigeration Office

SOUTH WINDHAM, Me.—William Wright and Roger L. Sprague of the E. J. Wright Utilities, Ltd., of Strathroy, Ont., Can., spent some time recently at the home office of the Baker Refrigeration Corp.

E. J. Wright Utilities, Ltd., has served as distributor for Baker equipment for a number of years.

Sprague, formerly associated with Baker Refrigeration Corp., joined the Wright Co. in 1948.

Specify  
**DAVISON PA 100**  
refrigeration grade  
**SILICA GEL**

in factory-charged  
dryers bearing  
this label or in bulk for refilling  
**PA 100 is your guarantee of all-around, superior performance**  
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## SOME TERRITORY NOW AVAILABLE



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## NEW UNIT EFFICIENCY *always* with **HM** CLEANABLE CONDENSERS

and the new two-stage design insures maximum heat transfer capacity



Seamless Copper Tubes  
Brass Headers Machined and Brazed

HM Cleanable Condensers can be maintained at "new-unit" efficiency and economy by regular and continued use of a standard cleaning tool. Water tubes are accessible at both ends—just loosen a few bolts and slide the end plates off—and there is nothing to obstruct the simple cleaning operation. Each quick cleaning operation takes only minutes, yet restores copper water surfaces to their original heat exchange efficiencies and adds months and years of the most efficient and economical service to the life of your refrigeration unit.

HM's new two-stage condenser design affords greater concentration of copper water-tube surfaces in the lower portion of the condenser. The smaller top water tubes allow ample refrigerant space, thereby eliminating resistance or pressure drop and affording the lowest possible head pressures. With this new construction, greatest possible heat-transfer values are effected.

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JOBBERS in all principal cities  
carry HM condensers in stock.

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MODEL SC255 ILLUSTRATED.  
SELF-CONTAINED AND REMOTE  
MODELS—17, 25 1/2, 34, 42 1/2 CASES.

*Here's a sales story that's hard to beat*  
**COOLING BY HOLDOVER PLATES**

- ★ No moving parts
- ★ Provides stored refrigeration
  - cuts operating cost
  - increases life of unit
  - absorbs shock warm load
  - reloading one compartment does not affect temperature in other compartments
- ★ All steel construction
- ★ Stainless steel trim, lids
- ★ Sheet cork insulation
- ★ Infra-red baked-on enamel

**COLBAR, INC.**

1070 W. THIRD AVE.  
COLUMBUS 12, OHIO



# The KEY to AIR CONDITIONING

One of a series from

by James J. LaSalvia

Readers who have any questions regarding the application of air conditioning are invited to write to Mr. LaSalvia, the author of this series, who will be pleased to furnish a complete and detailed answer free of charge. This is another of the services provided by the NEWS.

## Piping Refrigerant, Water, Steam (Cont.)

### TYPES OF HEATING SYSTEMS

When applying a steam coil in an air conditioning system, one should investigate what type of heating system is already in the premises, and install the new steam heating coils in accordance with the existing system if possible.

In general there are four systems to be considered:

1. Vacuum system (highly recommended).
2. Open gravity circuit system (recommended).
3. Closed gravity circuit system (not recommended).
4. High-pressure system (not recommended).

The Vacuum System is one where the condensate and air are removed

from the system through a return main by means of a mechanically operated vacuum pump, and the vacuum pump discharges the condensate into the boiler.

Fig. 19 shows the steam and return connections applied to this type of system except that there is no open air relief to the atmosphere near the coils. In this case the open air relief will be at the vacuum pump. Air relief at the coils is by thermostatic traps and the condensate by the float trap.

The Open Gravity Circuit System is one where there is no vacuum or pressure maintained in the return main and where the condensate flows by gravity into a condensate receiver. A condensate pump is used to take

Table 10—Sizes of Supply And Return Mains

(Based on 6,000 f.p.m. velocity of steam, 100-ft. length of run.)

Pounds of Steam Condensed per Hour	5 Lbs. Steam Pressure			50 Lbs. Steam Pressure		
	Size of Supply Inches	Size of Gravity Return Inches	Size of Vacuum Return Inches	Size of Supply Inches	Size of Return to Trap Inches	Open Return Beyond Trap Inches
200	1 1/4	1 1/4	3/4	1	3/4	1 1/4
400	2	1 3/4	1	1 1/4	1	1 3/4
600	2 1/2	2	1 1/4	1 3/4	1 1/4	2
800	3	2 1/4	1 3/4	2	1 3/4	2 1/4
1000	3 1/2	2 3/4	2	2 1/4	2	2 3/4
1200	4	3	2 1/4	2 3/4	2 1/4	3
1600	4 1/2	3 1/4	2 3/4	3	2 3/4	3 1/4
2200	5	3 1/2	3	3 1/4	3	3 1/2
2600	5 1/2	3 3/4	3 1/4	3 1/2	3 1/4	3 3/4
3200	6	4	3 1/2	4	3 1/2	4
3600	6 1/2	4 1/4	3 3/4	4 1/4	3 3/4	4 1/4
4200	7	4 1/2	4	4 1/2	4	4 1/2
4800	7 1/2	4 3/4	4 1/4	4 3/4	4 1/4	4 3/4
5500	8	5	4 1/2	5	4 1/2	5
6000	8 1/2	5 1/4	4 3/4	5 1/4	4 3/4	5 1/4
9000	10	6	5 1/2	6	5 1/2	6
10000	10 1/2	6 1/4	5 3/4	6 1/4	5 3/4	6 1/4
14000	12	7	6 1/2	7	6 1/2	7

From Aero-Flu Corp.

the condensate from the receiver and discharge it into the boiler.

Fig. 19 shows the steam and return connections applied to this type of system, except that in this case an open relief line to the atmosphere, must be provided near the steam coils. Air is removed from the coils by air valves or by thermostatic traps as shown. The float trap is used to eliminate any pressure built up in the return main.

The Closed Gravity Circuit System is one where there is steam pressure in the return main. The pressure in the return main plus the static pressure between boiler water line and return main returns the condensate back to the boiler without any pump.

Fig. 20 shows the steam and return connections applied to this type of system. In this type of system no traps are used. Air relief from the

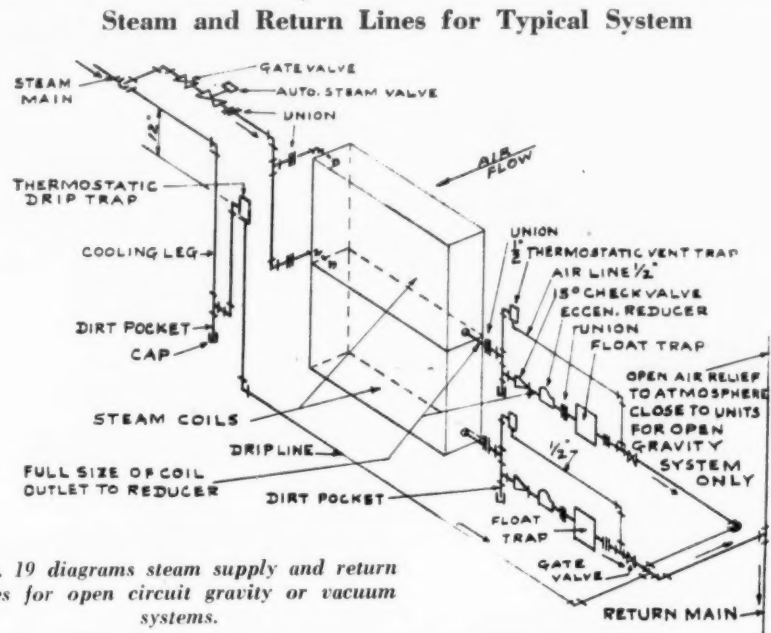


Fig. 19 diagrams steam supply and return lines for open circuit gravity or vacuum systems.

coils is by a quick vent air valve, and the vacuum breaker is used to break the vacuum in the coil when the steam is shut off. The vacuum breaker which can be a check valve, admits air to enter the coil and keeps from creating a vacuum inside the coils.

Automatic control cannot be used with this type of system, and the fact that all air conditioning systems require automatic control, whether for cooling or heating, makes this system unsuited for this work. In such cases, change the system to a vacuum or open gravity system.

High Pressure System is where the steam pressure is above 20 lbs., and a high pressure is also in the return main.

Fig. 21 shows the steam and return connections applied to this type of system.

Air relief from the coils is by pet cocks for continuous venting. The condensate is discharged by a high pressure bucket trap, usually to a boiler return trap, from where the condensate is discharged in the boiler. All traps used in this type of system are high-pressure traps.

For air conditioning systems this type of steam coil connection is not recommended. Change present high-pressure system to a vacuum or open gravity system.

### SPECIAL NOTES

Special notes to be applied to Figs. 19, 20, and 21.

1. All check valves shall be of the swing type with flappers hanging 15° from the vertical.
2. All valves and traps to be outside of casing.
3. The steam coils of the horizontal type should be pitched toward the

drip end of not less than 1/2 in. for tubes 6 ft. long, and 1 in. for tubes longer than 6 ft.

4. Steam mains, return mains, and risers should be anchored and supported independently of the steam coils.

5. Steam mains should be installed with ample provisions for expansion and contraction.

6. All dirt pockets should be from 6 in. to 12 in. deep.

### SIZE OF TRAPS

In selecting the size of traps it is necessary to use traps two to three times as large as the required condensate which must pass. For example: if 1,000 lbs. of condensate per hour is figured to pass, a trap of 2,000 lbs. to 3,000 lbs. per hour should be used.

### PIPE SIZING

For selecting proper size of mains and branches use Table 10.

### EXAMPLE

Given an air conditioning system where two equal steam coils have been selected to heat the air. The steam coils are to be connected to a present vacuum system. A maximum of 2,000 lbs. of steam per hour is to be used at any one hour. What are the sizes of steam and return piping?

The steam main for 2,000 lbs. per hour is ..... 5 in.  
The steam branch to each coil for 1,000 lbs. per hour is... 3 1/2 in.  
The return branch at the float for each coil is ..... 1 1/4 in.  
The main return line is..... 2 in.  
The float trap should be of such size as to be capable of passing from 4,000 lbs. to 6,000 lbs. of condensate per hour.

(To Be Continued)

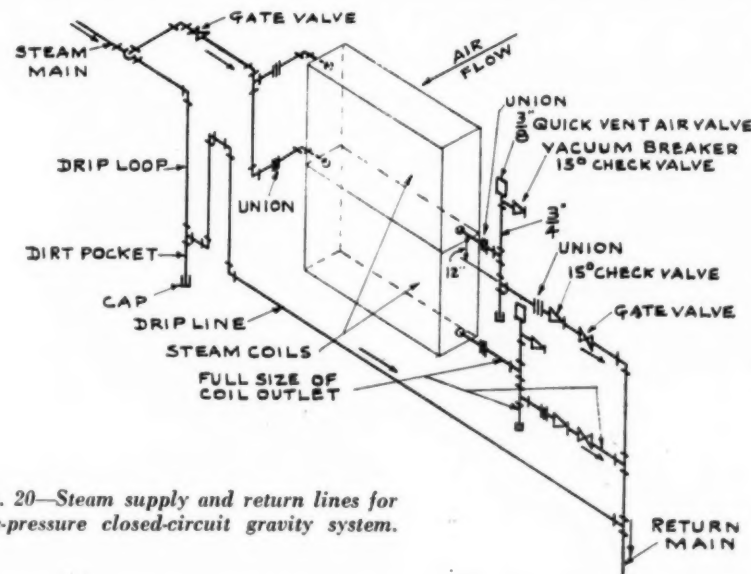


Fig. 20—Steam supply and return lines for low-pressure closed-circuit gravity system.

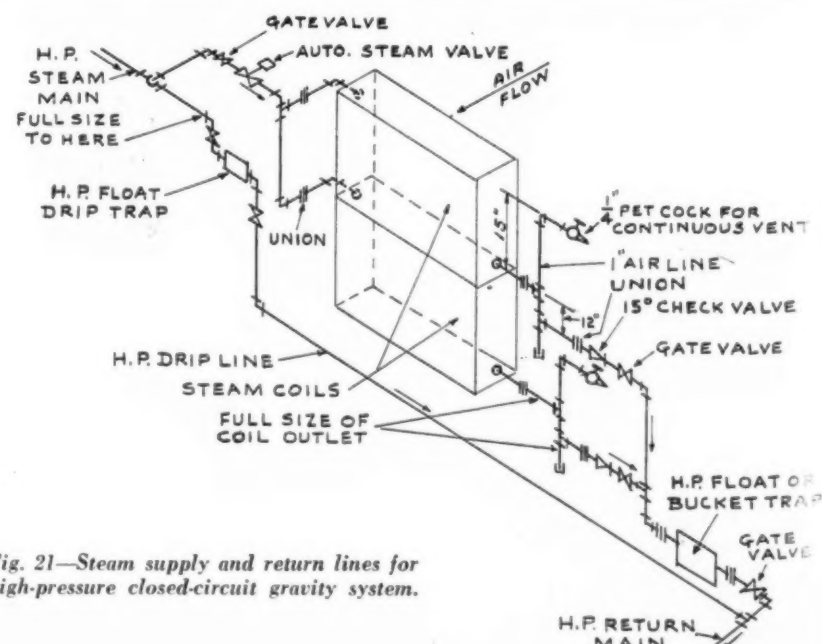


Fig. 21—Steam supply and return lines for high-pressure closed-circuit gravity system.

## A. O. Smith Builds ELECTRIC MOTORS

### SMITHway Electric Motors Now Power Hundreds of Products, Including the ATLAS FLOOR MACHINE



To electric motors, A. O. Smith is now devoting the same high standards of research and engineering which have distinguished the products of this firm for seventy-five years.

SMITHway Electric Motors are designed and built to bring to each application the maximum in compactness... safety... convenience... and trouble-free service.

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For all standard applications, SMITHway Electric Motors are built in both fractional and integral horsepower ratings: single-phase, 1/10 to 7 1/2 hp.; poly-phase, 1/10 to 125 hp.

ATLAS FLOOR MACHINE, product of Atlas Floor Surfacing Machinery Corp., New York City, incorporates a SMITHway Electric Motor specially designed for the job. To retain the designer's requirements for good appearance, capacitors and starting mechanism are concealed under the top cover, with a vertical starting-to-running-switch mechanism. The entire machine recently passed rigid United States Navy tests.

SMITHway ELECTRIC MOTOR used in the Atlas Floor Machine is shown in operating position and, upside down, to expose gear and breather cap. To reduce over-all height, top end bell is concave, and necessary polishing weight is provided. Cast-in terminal compartment included for 3 prong terminals. The motor has high torque, and is built for continuous-duty operation. It exceeds the machine designer's required electrical performance.

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NATIONWIDE MOTOR SERVICE—24-hour, off-the-shelf motor service—fast and low-cost—is provided by the A. O. Smith Product Service Division everywhere in the U.S. Factory Service Branches and Warehouses at Union, N.J., Chicago, and Los Angeles.

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## 13 Companies Sell 1,127,729 Refrigerators

(Lacquer and Porcelain Exterior Cabinets) (Advertised Sizes)  
Complete Refrigerators Only

## MARCH (13 Companies)

Sizes	Domestic (48 States and D. C.)	Canadian	Other Foreign	Total
1. Less than 4 cu. ft....	184	.....	.....	184
2. 4 cu. ft. ....	1,757	.....	211	1,968
3. 5 cu. ft. ....	.....	.....	.....	.....
4. 6 cu. ft. ....	52,840	.....	3,811	56,651
5. 7 cu. ft. ....	63,589	.....	4,377	67,966
6. 8 cu. ft. ....	122,603	4	4,365	126,972
7. 9 and 10 cu. ft. ....	110,268	.....	*1,341	111,609
8. 11 and 12 cu. ft. ....	17,969	.....	1,593	19,562
9. 13 cu. ft. and up....	6	.....	625	631
10. Total .....	369,216	4	13,641	382,861

\*Credit reported by one company.

## FIRST THREE MONTHS (13 Companies)

Sizes	Domestic (48 States and D. C.)	Canadian	Other Foreign	Total
1. Less than 4 cu. ft....	919	.....	.....	919
2. 4 cu. ft. ....	5,102	.....	588	5,690
3. 5 cu. ft. ....	.....	.....	.....	.....
4. 6 cu. ft. ....	117,644	.....	7,839	125,483
5. 7 cu. ft. ....	198,220	1	9,110	207,331
6. 8 cu. ft. ....	353,134	4	12,655	365,793
7. 9 and 10 cu. ft. ....	349,300	.....	8,190	357,490
8. 11 and 12 cu. ft. ....	63,146	.....	1,848	64,994
9. 13 cu. ft. and up....	28	.....	1	29
10. Total .....	1,087,493	5	40,231	1,127,729

Participating companies: Admiral Corp.; Avco Mfg. Corp.; The Coolerator Co.; Frigidaire Div., General Motors Corp.; General Electric Co.; Gibson Refrigerator Co.; Hotpoint, Inc.; International Harvester Co.; Kelvinator Div., Nash-Kelvinator Corp.; Norge Div., Borg-Warner Corp.; Sanitary Refrigerator Co.; Stoddard Mfg. Co.; Westinghouse Electric Corp.; Seeger Refrigerator Co. (out 1-1-49).

## 'Phony' Trade-Ins-- NEMA Sales Up--

(Concluded from Page 1, Column 2)  
of any salvage or commercial worth of the article traded in and the dealer generally can be depended upon to give the allowance even though nothing is traded in.

"Such trade-in offers have been successfully used in the past as trade stimulants, and we recognize that because of past promotions, some consumers demand unrealistic trade-ins. Better Business Bureaus are opposed to insincere trade-ins, however, and believe that they are (1) misleading to the public; (2) unfair to competition; and (3) detrimental to public confidence in business. Here is why we think so:

"(1) The consumer who believes that she receives \$30, \$40, or \$50, or some such sum, on an insincere trade-in offer for an article which has little, if any salvage or commercial value, is deceived as to the retail price of the article purchased.

"(2) To the extent that they mislead the public, fake trade-ins unfairly divert trade away from advertisers who do not use false and misleading practices, and they therefore constitute unfair competition.

"(3) Any practice which is designed to fool the public is bad business. Public confidence in business and in our free enterprise system cannot be earned by a practice which exploits human credulity and gullibility.

"We appeal quite frankly to the manufacturers of major appliances to exercise sound business leadership in this matter and avoid fake trade-in offers. We ask that appliance prices be free of mark-ups especially inflated to accommodate a phony trade-in and that if price reductions are required they be designated as such and not disguised as trade-in allowances.

"We do not advocate the abandonment of all trade-in offers, of course. If a customer's article has value and there is a market for it, there is no reason why the dealer, if he so desires, should not, in effect, buy the old article. In a bona fide deal the retailer will offer a fair market price for such an article.

"We respectfully ask that you give our request your friendly consideration."

MDD

means

M-O-L-D-E-D

DU-CAL DRIERITE

Watch next issue for  
Remco's announcement

(Concluded from Page 1, Column 2)  
quarter. Domestic sales were 1,087,493 as compared with 891,810 last year. Foreign sales for the 1949 quarter were about 20% under last year, totaling 40,236 and 50,868, respectively.

Sales for the month of March alone were slightly higher than last year. The comparative figures on world sales were 382,861 this year and 356,150 last year. Foreign sales were off from 18,041 in March '48 to 13,645 in March, '49.

Comparisons of quarterly world sales by size of unit sold revealed for 1949, the 8-cu. ft. size was most popular with 365,793 units sold. It was closely followed by the 9 and 10-cu. ft. classification with 357,490 units moved. The 7-cu. ft. category was a poor third with 207,331 units sold.

## Restaurant Show Coming--

(Concluded from Page 1, Column 3)  
event. The exposition will open Tuesday, May 24.

In addition to the exposition, the National Restaurant Association will conduct a program consisting of general sessions in the morning, sectional discussion periods during the afternoon, and a number of special events.

Among the companies in the field who are exhibiting are:

Ajax Corp. of America  
Baker Refrigeration Corp.  
Circular Metal & Equipment Co.  
The Dunhill Soda Fountain Corp.  
Frigidaire Div. of General Motors  
Herrick Refrigerator Co.  
Hotpoint, Inc.  
Husmann Refrigeration, Inc.  
Ice-Flu Corp.  
International Harvester Co.  
Leitner Equipment Co.  
McCray Refrigerator Co.  
Norris Beverage Dispenser, Inc.  
Phenix Soda Fountain Co., Inc.  
Pinnacle Equipment Corp.  
Stainless Food Equipment Co.  
Star Mfg. Co.  
Star Metal Mfg. Co., Inc.  
Sweden Freezer Fridge Co.  
Thermo Cuber Co., Inc.  
Tyler Fixture Corp.  
Victory Metal Mfg. Co.  
York Corp.

General Chef Combination  
Range, Refrigerator Shown

LOS ANGELES—The "General Chef," combination electric refrigerator and two burner electric range, is now available in a 110-volt model. Both the refrigerator and range plug into any household circuit from one wire.

The unit which measures 27½ in. by 21½ in. is also available in a 220-volt model. Both retail at \$239.50.

W. H. Laband, president of General Air Conditioning Corp., manufacturer of the General chef and General refrigerator, reports that sales of his company's products are up.

## FHA Loan Policy--

(Concluded from Page 1, Column 4)

borrow through dealers amounts up to \$2,500 on one contract for improvements and modernization of their property. Each borrower is permitted two contracts with a maximum \$5,000 loan for both.

Refrigeration and air conditioning units are eligible for Title 1 loans as long as they become a fixed part of the property, FHA officials indicated. However, they urged that each manufacturer or distributor get a separate ruling on whether or not his product is specifically eligible.

The FHA's Detroit office said that it was seeking official clarification of whether air conditioning units that required ductwork are eligible when the ductwork is exposed and not built right into the structure. An answer is expected in a few weeks, a spokesman indicated.

Trade Asks Resumption  
Of Mid-Season Markets

CHICAGO—Resumption of mid-season home furnishings markets like those staged in the American Furniture Mart here before the war is being considered at the request of the trade, Lawrence Whiting, Mart president, declared recently.

This action, if taken, would increase the number of annual markets to four.

"There appears to be a growing sentiment to get away from the increasing number of local and picture markets that have sprung up in various cities and which, many feel, are economically unsound," Whiting said.

## Goss &amp; Bradley Files In East

BUFFALO—A business name has been filed in the Erie County clerk's office for Goss & Bradley Plumbing & Heating.

Westinghouse To Introduce  
6-Cu. Ft. Upright Freezer  
In Selected Sales Areas

MANSFIELD, Ohio—Production of a new, 6-cu. ft., upright home freezer has been announced by the Westinghouse Electric Appliance Div. The unit was introduced this month through the Georgia Power Co. consumer sales organization.

According to G. H. Meillinger, manager of household refrigerators for Westinghouse, the new product will be introduced in other sales districts as soon as production at the company's Springfield, Mass. plant permits. No schedule for district openings will be available until maximum production has been attained.

Advertising and promotion of the freezer will be limited to areas in which it is introduced and no national advertising will be scheduled until 1950. It is expected that the new freezer will be distributed nationally by next fall.

The Westinghouse upright freezer model is designed as a companion model to the 1949 line of the company's refrigerators. It has three compartments, each with a separate "handi-shelf" inner door, equipped with strong hinges to permit use of the doors as shelves for loading, unloading, or arranging of food packages. Each compartment will hold approximately 2 cu. ft. of food and the design permits filing of foods in an orderly manner for quick access.

The Westinghouse freezer has a primary and a secondary refrigerating system. The primary system will keep the freezing compartment at -10° to -15° F. and the secondary system will refrigerate the bottom, sides, and back of the inside cabinet (or food liner) keeping the temperature in the storage compartment at 0° F. or below.

The control dial has three settings: "normal," "off," and "coldest." At normal setting, the refrigerating unit



Westinghouse 6-cu. ft. upright home freezer.

will keep the freezing compartment at -10° F. and the storage compartment at 0° F. Temperatures will run about 5° colder when the control or selector dial is turned toward coldest and above 5° warmer when turned toward off. Continuous operation of the unit is provided at the coldest setting.

## Monitor Debts--

(Concluded from Page 1, Column 5)

In filing the petition Monitor showed assets of \$743,622.72 and liabilities of \$471,102.01.

Monitor officials declared that the company has under discussion the taking of up to \$1 million of capital from outside sources. Before this is effected, however, Monitor's 60 distributor members, who are also its stockholders and directors, will probably vote on the matter when they meet May 16-17 at the company's headquarters in Riverdale, N. Y. The move would also have to be okayed by the court.

The company is making plans to introduce new washer models, probably shortly after the distributors' convention (see story elsewhere in this issue).

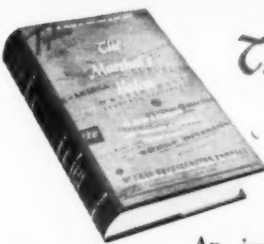
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The Marshal's  
Batonby George F.  
Taubeneck

An important and significant book, THE MARSHAL'S BATON is the "advanced course" in salesmanship, written by the author of the deservedly popular ONE FOOT IN THE DOOR. Here, for the first time, is the distilled knowledge and experience of the country's most brilliant sales executives who saw the need of codifying their sales wisdom for the benefit of younger men. It is a brilliant new source of power, and a unique and highly useful contribution to the science of creative sales management. \$5.00

THE MYSTERIES OF  
BLAIR HOUSE

by Roy Eastman

For the died-in-the-clue mystery fan at last comes a spine-tingling thrill with the first really new plot twist in years. Done in a style and tradition reminiscent of that master chiller, A. Conan Doyle, THE MYSTERIES OF BLAIR HOUSE so impressed its publishers that costs were ignored in producing this memorable first edition. In two colors, beautifully bound, and with "mood illustrations" by William A. Bostick, this is an ideal gift and a \$2.75 pridesworthy library addition.

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# PATENTS

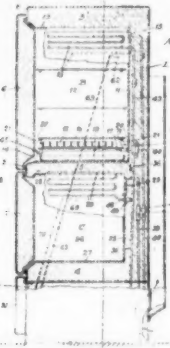
Week of February 22  
(Continued)

**2,462,236. MANUFACTURE OF SILICA HYDROGEL AND CATALYSTS.** Charles L. Thomas, Western Springs, Ill., assignor to Universal Oil Products Co., Chicago, Ill., a corporation of Delaware. No Drawing. Application July 30, 1945, Serial No. 607,903. 13 Claims. (Cl. 252-451.)

1. A process for producing silica hydrogel which comprises forming an alkaline silica hydrogel by commingling an alkali metal silicate with an acid in an amount required to form said hydrogel in an alkaline medium, commingling additional acid therewith to reduce the pH of the mixture to below about 5, and thereafter adding a basic reagent to raise the pH of the mixture to between about 5 and about 8.

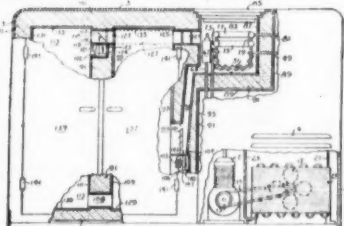
4. A process for producing a catalyst which comprises forming an alkaline silica hydrogel by commingling an alkali metal silicate with an acid in an amount required to form said hydrogel in an alkaline medium, commingling additional acid therewith to reduce the pH of the mixture to below about 5, adding a basic reagent to raise the pH of the mixture to between about 5 and about 8, washing said silica hydrogel to remove alkali metal ions, and thereafter combining said hydrogel with a metal oxide to form a composite having catalytic properties.

**2,462,240. TWO-TEMPERATURE REFRIGERATOR SYSTEM.** Paul D. Van Vleet and Bartell J. Homkes, Galesburg, Ill., assignors to Liquid Carbonic Corp., Chicago, Ill., a corporation of Delaware. Application March 21, 1945, Serial No. 583,925. 11 Claims. (Cl. 62-4.)



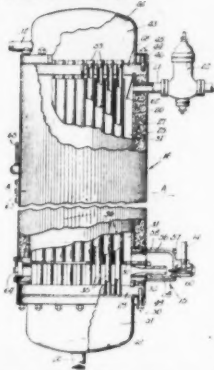
1. In a household refrigerator, a condensing unit, an evaporator in fluid circuit therewith, a storage compartment in which said evaporator is positioned, a second evaporator, in series with said first mentioned evaporator, adapted for ice cube freezing, a restricted passage between said evaporators, a shut off valve for said second evaporator adapted, when closed, to prevent the flow of refrigerant through said second evaporator, and by-pass means adapted to permit a return flow of refrigerant from said first mentioned evaporator to said condensing unit when said shut off valve is closed.

**2,462,279. MULTIPLE COMPARTMENT REFRIGERATOR, INCLUDING CONTROLS FOR THE REFRIGERATING SYSTEM THEREOF.** Charles Passman, New York, N. Y., assignor to S. F. Bowser & Co., Ltd., Toronto, Ont., Can., a corporation of Canada. Application Sept. 27, 1945, Serial No. 618,899. 8 Claims. (Cl. 62-2.)



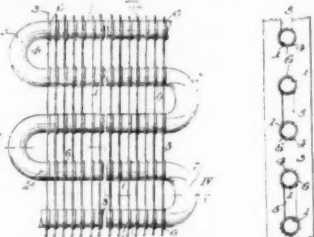
1. In a mechanical refrigerator, a refrigerating unit having an evaporator, a refrigerated compartment for said evaporator, a second refrigerated compartment, ducts connecting said compartments for circulating air, a shutter movable between open and closed position and thermostatically responsive to the temperature in said second compartment for regulating said circulation, and a blower in one of said ducts operating simultaneously with the opening of said shutter to force circulation of said air.

**2,462,229. EVAPORATOR HAVING REFRIGERANT RECIRCULATION MEANS.** Harry G. Mojonier, Oak Park, Ill. Application Jan. 12, 1945, Serial No. 572,527. 15 Claims. (Cl. 62-126.)



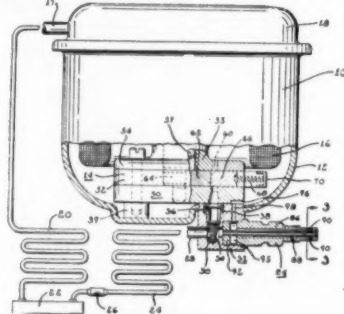
1. An evaporator for use with refrigerating apparatus comprising a tank structure, a pair of elongated tube members within the tank structure, said tube members being of different size, means for supporting the smaller tube within the larger tube, means forming a gas and liquid refrigerant separator chamber within the tank structure, means interconnected with said chamber for transmitting a refrigerant medium through one of said tubes, said refrigerant transmitting means including means for individually withdrawing gas and liquid phases of the refrigerant from said separator chamber, and means for transmitting a medium to be cooled through the other tube, whereby the wall surfaces of the smaller tube constitute a heat transfer surface engaged by the refrigerant medium and the medium to be cooled to effect an exchange of heat therebetween.

**2,462,511. METHOD OF PRODUCING CONDENSERS OR THE LIKE FOR HEAT EXCHANGE APPARATUS.** Nathan Kramer, Trenton, N. J., assignor to Kramer Trenton Co., Trenton, N. J., a corporation of New Jersey. Application Jan. 12, 1945, Serial No. 572,563. 2 Claims. (Cl. 29-157.3.)



1. A method of producing an apparatus of the character described, which includes the following steps: providing a single piece tube bent sinuously in a single plane and having substantially straight parallel portions connected by curved portions; flattening certain of the curved portions in the direction of the plane of the tube; providing a plurality of fins having apertures corresponding in shape with the combined cross section of the straight and flattened curved portions of the tube; and moving the tube and fins with respect to each other to cause the flattened curved portions of the tube to pass through the said apertures and the fins to be seated on the said straight portions.

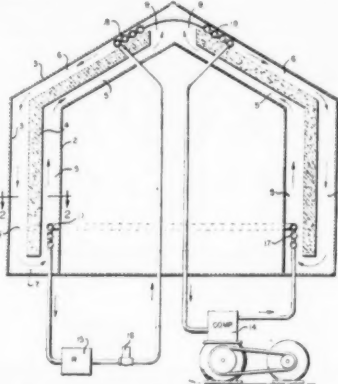
**2,462,535. REFRIGERATING APPARATUS WITH CHARGING PLUG.** John M. Murphy, Dayton, Ohio, assignor to General Motors Corp., Dayton, Ohio, a corporation of Delaware. Application July 3, 1946, Serial No. 681,249. 2 Claims. (Cl. 62-115.)



1. In a refrigerating system, an evaporator, a refrigerant translating device and conduits connecting said device and said evaporator in closed circuit relationship, said refrigerant translating device including a casing enclosing a compressor, a motor for operating said compressor, said casing having an inlet communicating with said compressor and

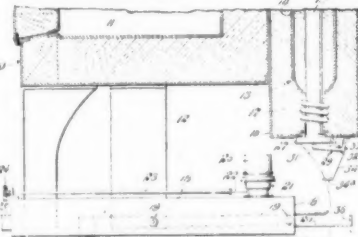
an outlet, a plug projecting through said casing and being accessible from outside of said casing, said plug comprising a first tubular element and a second tubular element concentrically arranged within said first tubular element in spaced relationship thereto and forming therewith two separate passages, said first tubular element having externally formed threads thereon, a disc for closing both of said passages, and means for holding said disc confined therein and adapted to seal the same against the outer end of said plug, said means comprising an internally threaded cup-shaped cap located on said externally formed threads on said first named tubular element of said plug and having a passageway formed in the side wall thereof arranged so as to communicate with both of said separate passages upon partial removal of said cap from said plug.

**2,462,557. HEAT PUMP MEANS FOR CONTROLLING THE TEMPERATURE OF THE WALLS OF A ROOM.** Carl M. Santee, Dixon, Ill. Application Oct. 8, 1947, Serial No. 778,702. 3 Claims. (Cl. 62-129.)



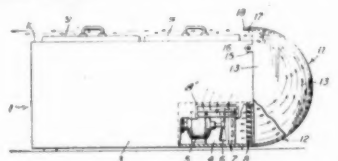
3. A heat pump for controlling the temperature of a space, comprising an enclosure for said space including a wall formed with spaced internal, external and intermediate panels spaced apart to form parallel internal and external vertical air passages, said internal and external panels being of material of relatively good heat conducting properties and said intermediate panel being of heat insulating material, said air passages communicating with each other at their upper and lower ends, and a heat pump mechanism comprising separate heat exchangers in said air passages arranged to function as a condenser in one said air passage and as an evaporator in the other said air passage.

**2,462,671. FLUE CONNECTOR ASSEMBLY FOR ABSORPTION REFRIGERATORS.** Clifford D. Pfender, Albert Schultze, and Carl J. Knerr, Evansville, Ind., assignors to Servel, Inc., New York, N. Y., a corporation of Delaware. Application July 15, 1947, Serial No. 761,016. 5 Claims. (Cl. 62-1.)



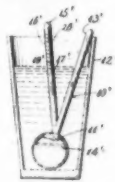
1. In a refrigerator having a heat-receiving element provided with a flue, a heater for said element having a chimney and removably mounted in an operative position with an end of said chimney adjacent an end of said flue, a member co-acting with said flue and chimney and movable relative to both the flue and the chimney to and from a position connecting the adjacent ends of the flue and the chimney, and mechanism to so move said member and operative responsive to movement of said heater to and from said operative position.

**2,462,705. MOISTURE REMOVING DEVICE FOR DEEP FREEZERS.** Raymond O. Abeling, Torrington, Conn., assignor of fifty per cent to John Hirschak, Torrington, Conn.



1. The combination with a deep freezer having a top lid, a condenser coil compartment with an outlet adjacent the bottom and in one vertical wall thereof, and means for discharging air under pressure out of said outlet, of means for deflecting such discharging air upwardly to the top of said freezer having a discharge opening extending across said top from one side of said freezer to an opposite side and in a plane perpendicular to said top, whereby such air is discharged along said top and lid to remove moisture from the same.

**2,462,757. COMBINED MIXER AND COOLER FOR DRINKS.** Julius Loyce, South Amboy, N. J. Application May 10, 1946, Serial No. 668,955.



1. As a new article of manufacture, a combined mixer and cooler for drinks comprising a hollow and thin wall structure involving a bowl and a narrow stem emanating therefrom, said bowl being of a size permitting ready insertion into a conventional drinking glass and a freezable liquid therein which is water and colored, and said stem being sealed, there being another stem emanating at a slight angle from the same point of said bowl, which in its upper part houses a thermometer.

(To Be Continued)

## CLASSIFIED ADVERTISING

EFFECTIVE with the issue of June 6, 1949, rates for classified advertising will be revised as follows:

RATES for "Positions Wanted" \$5.00 per insertion. Limit 50 words. 10¢ per word over 50.

RATES for all other classifications \$7.50 per insertion. Limit 50 words. 15¢ per word over 50.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other addresses by actual word count. Please send payment with order.

### POSITIONS WANTED

ENGINEER: GRADUATE M.E. 28. Six years experience in refrigeration & air conditioning, primarily in design & manufacturing. Some sales experience with personality & background well suited for sales or application activity. Registered professional engineer. Member of ASRE. BOX 3175, Air Conditioning & Refrigeration News.

### POSITIONS AVAILABLE

SALES ENGINEER air conditioning and commercial refrigeration up to 30 tons. If you are thoroughly experienced in making surveys, estimating and selling package and central station equipment here is an unusual opportunity. As exclusive distributors of York equipment in greater Cleveland area, we can use you immediately, and you can cash in immediately. Permanent future assured with an established organization making refrigeration their business, not a side line. Give full details with application. Replies confidential. COMMERCIAL REFRIGERATION INC., 1835 East 24th St., Cleveland, Ohio.

SERVICE MAN familiar with commercial and domestic service wanted by West Coast firm. \$2.25 per hour. Transportation furnished. Right man could work into position as service manager. Write in your own handwriting giving full details. BOX 3180, Air Conditioning & Refrigeration News.

SALES MANAGER: National commercial refrigerator company has opening for a branch manager in Connecticut office. We are seeking an experienced, aggressive, hard-hitting man who is looking for a future. Write complete details. BOX 3183, Air Conditioning & Refrigeration News.

WANTED: MANAGER for branch office on commercial fixtures, store equipment, and butchers equipment. No air conditioning. Must be able to organize sales force, have proven record, and be capable of complete management. This is an unusually good proposition. Give complete past connections and details. Location: Iowa. Write BOX 3184, Air Conditioning & Refrigeration News.

MANUFACTURER of refrigeration components, unit coolers, water coolers, etc. needs manufacturer's representative in South, Southwest, West, and Midwest territories. Also some territories available in Eastern states. Our products are of highest quality, and prices are very competitive. Please supply all available information. BOX 3185, Air Conditioning & Refrigeration News.

### EQUIPMENT FOR SALE

PNEUMATIC DRILLS pistol grip Jacobs chucks \$17.50, 90° Collet chuck drills pistol grip \$15.00 each. Also Morris tapered chuck drills, rivet hammers, and compression rivet squeezers. Other air tools. Good working condition. 93 sets new Universal compressor parts, 63425 valve plate assemblies \$3.00, #1397 seal (fly-wheel) \$1.10, #63384 housing cover assembly \$3.25, gaskets, WM. BERGNER, 2962 Cass Avenue, St. Louis, Missouri.

MERCOLD THERMOSTATS. -5° to plus 35°. Brand new at \$15.00 each. BIMEL CO., Cincinnati, Ohio.

SEALED UNITS rebuilt and exchanged. Prompt service on Coldspot (sealed & semi-sealed). Chieftain, Gale, Tecumseh, Norge and many others. One year guarantee. Write for price list and shipping instructions. BRIGHTON, 3906 Joy Rd., Detroit 6, Michigan.

FROZEN FOOD cabinets for sale (30)—"Acco" cabinets made to Birdseye specifications by Bastian-Blessing Co. Approx. dimensions: height 35 1/4", width 27 1/4", length 98 1/4", capacity 20 cu. ft. At our cost—\$495.00, superstructures to match—\$120.00 F.O.B.: Culver City, California. Subject to prior sale. Send for literature. COLLINS ENGINEERING COMPANY, 9054 Washington Blvd., Culver City, California.

CLOSEOUT 800 dehydrators—American Injector Co. Model 116-4 silica gel filled, 6 1/2" long over-all, 1 1/2" diameter, 1/4" SAE connections. Send one dollar for sample or make offer for lot. FRANK P. FOLEY INC., 564 Walton Ave., New York 51, N. Y.

A REAL bargain—water coolers—brand new Kelvinators—ten gallon capacity—crated for immediate delivery. New prices \$145—quantities five or more \$139.50. A few Beam scales available \$22.50 each, ten or more \$19.50—never used—a good buy. GENERAL REFRIGERATOR COMPANY, 856 North Broad Street, Philadelphia, Penn. ST. 7-2240, ST. 7-2241.

SPECIAL CLOSE-OUT on brand new Yoder, Dole, BTC and Stangard freezer plates—19" x 30" @ \$5.00; 22" x 32" @ \$6.00; 19 1/2" x 60" @ \$8.00; 19" x 72" @ \$9.00; 19 1/2" x 72" @ \$9.00; 21" x 72" @ \$10.00; 22 1/2" x 75" @ \$10.00; 19" x 84" @ \$11.00; 25" x 83" @ \$12.00. Motors—Jack & Heintz 1/4 H.P. @ \$13.00; Chief 1/4 H.P. @ \$15.00. Coils—Tenneco finned coils 76" x 16" x 2 1/4" 6 tube single row @ \$9.00. Units—Chrysler Alrtemp air-cooled units, 1/4 H.P. @ \$59.00; 1/2 H.P. @ \$64.00; 3/4 H.P. @ \$79.00; 1 H.P. @ \$112.00; 1 1/2 H.P. @ \$178.00. Send deposits to GENERAL REFRIGERATORS CORP., 678 Broadway, New York 12, N. Y.

ACCURATE AUTOMATIC calculations. Schwerin automatic calculating psychrometric chart will instantly determine all properties of air (when two are known). A must for estimators, engineers, salesmen, instructors and students. Complete

with protective envelope. Send \$2.00 check, Money Order, Dept. C. SCHWERIN AIR CONDITIONING CORP., 570 Lexington Ave., New York 22, N. Y.

SUBJECT TO prior sale: Hermetic Chieftain units: 1/4 H.P.—\$44.50; 1/2 H.P.—\$44.50. Other well known hermetics: 1/4 H.P. fan cooled—\$62.50; 1/2 H.P. fan cooled—\$57.50; 3/4 H.P. fan cooled heavy duty—\$59.50; 1 H.P. fan cooled heavy duty—\$69.50. Open units—standard makes: 1/4 H.P.—\$56.00; 1/2 H.P.—\$64.50; 3/4 H.P.—\$84.50; 1 H.P. air or water cooled Universal Cooler—\$199.00; 2 H.P. air or water cooled Universal Cooler—\$224.00; 3 H.P. air or water cooled Universal Cooler—\$259.00. All above units new and in original crates. Air cooled condensers: 3 row, 1 pass, 13" x 12" x 3"—\$3.95; 4 row, 1 pass, 13" x 12" x 4 1/2"—\$4.45; 4 row, 1 pass, 18" x 12" x 4 1/2"—\$6.25. Upright receiver tanks, shut off valve, 4" x 11"—\$2.65. Penn low or high pressure control type, 260 Apol—\$3.75. Detroit Lubricated L. P. control—\$4.00. G. E. blower fan motor with fan—\$4.50. Superior heat exchanger, 13" overall, 1/4" x 1/4"—\$4.75; Mueller heat exchanger, 14 1/2" overall, 1/4" x 1/4"—\$5.00; Marlo heat exchanger, 21" overall, 1/4" x 1/4"—\$7.50. Kramer Trenton panel blowers complete with heat exchanger, 1/2 ton—\$29.00. Superior master drier, 1/4" flare x 1/4" x 5/2"—\$7.50. Weatherhead drier, 1/4" flare x 1/4" x 6 1/4" (lots of 10)—\$5.50. U. S. "Freon" gauge 4 1/2" face, 30" vac. 150# or 300# with corresponding temp. scale, red warning hand, mounting holes—\$4.50. Scientific dial thermometer, 4 1/4" face, minus 40 to plus 120, 5 ft. tube, mounting holes—\$4.50. Keco type k.w. 412 cold control complete—\$4.00. WALTER W. STARR, 1207 George St., Chicago 13, Ill.

17 NEW STANGARD, 8 hole ice cream cabinets in original factory crates, less compressors, \$225.00 each. Here is a real bargain if you can use them. WRIGHT REFRIGERATION, INC., 4025 Pacific Highway, San Diego, California.

RELAYS (1,000) 1/4, 1/2, 3/4 G.E. hammer type—120, 1/4, 1/2, 3/4, 1/2, 1/2, 1/2 Frigidaire, 1/4, 1/2, 3/4 Delco. Each relay is rebuilt and guaranteed. This complete lot of assorted relays for only \$950.00. Write BOX 3178, Air Conditioning & Refrigeration News.

### FRANCHISES WANTED

MANUFACTURERS' REPRESENTATIVE seeking lines for central Illinois territory. Wide and lengthy experience in air conditioning and refrigeration engineering. Enjoying top clientele in territory. BOX 3176, Air Conditioning & Refrigeration News.

DIRECT EXPORT representation in Brazil. Long established import firm opening offices in Brazil for direct representation on household and commercial refrigeration. Complete shop facilities available. Have openings for top line franchises. Trained sales force. BOX 3177, Air Conditioning & Refrigeration News.

### BUSINESS OPPORTUNITIES

SACRIFICE! COME to California where there are sales and service winter as well as summer. Must sacrifice small, well equipped firm specializing in maintenance contracts and 1-10 h.p. commercial sales. Worth \$10,000.00. \$2,000.00 cash will handle. Contracts in process included. Forced to make immediate sale. M. J. CARR, 1414 Sutherland St., Los Angeles 26, Calif. MUTUAL 4017.

NEW YORK Area. Refrigeration contracting, established over 15 years. Total volume 1947 & 1948 \$500,000. Excellent location and facilities. Will sell with or without building. For particulars write SANDERSON & ENGEL, Attorneys, 17 Academy Street, Newark, New Jersey. Confidential.

SERVICE MEN attention: If you have been getting gray hairs from moisture troubles write for information on our new patent mechanical (\$4.00) moisture separator which eliminates all such worries. Salesmen wanted. Write TECH LABORATORIES, INC., Palisades Park, N. J.

DOMESTIC DEPARTMENT for sale of Wright Refrigeration, Inc., San Diego. In order to devote our entire time, effort and money to the further development of the Hussmann self-service food store equipment we will sell out our domestic department at invoice and give a good lease on the building. Here is a real chance for some one wanting to get in the domestic refrigeration and appliance business. Many thousands of dollars have been spent advertising this department. It is all yours for free just buy the stock and move in. WRIGHT REFRIGERATION, INC., 4025 Pacific Highway, San Diego, Calif.

RESTAURANT EQUIPMENT department of Wright Refrigeration, Inc. for sale. In order to devote more of our time to our self-service food department, we are willing to sell out this restaurant supply and equipment part of our business. Close in territory of over a half million with only two major restaurant supply houses in town. We do not believe this opportunity exists any where else in the country for a good live restaurant supply and equipment house. If interested act at once. This is a real buy for a quick deal. WRIGHT REFRIGERATION, INC., 4025 Pacific Highway, San Diego, Calif.

FOR SALE: Well established refrigeration wholesale supply business in a large Southwest California city. Reason for selling: poor health and other interests. Have contracts to handle most major lines. Experienced help available. Lease can be renewed first of August. BOX 3181, Air Conditioning & Refrigeration News.

LEADING SHEET metal and air conditioning business for sale in industrial Michigan city, located on U. S. 12. Modern 50 x 80 building and display room. \$18,000. inventory, complete line of tools and 1948 Dodge truck. Well known line of merchandise. BOX 3182, Air Conditioning & Refrigeration News.

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# Refrigeration Problems and their Solution

by Paul Reed

For Service and Installation Engineers



Paul Reed

## Refrigerants (7)

### FIRST OF THE HALOGENATED HYDRO-CARBONS

In fact, methyl chloride is classed as a "halogenated" hydro-carbon, for chlorine is one of the chemicals, including also fluorine, bromine, and iodine, that are known as "halogens."

Like the "straight" hydro-carbons, propane, iso-butane, butane, etc., methyl chloride has very little odor, which was an advantage over sulphur dioxide and ammonia if a leak occurred in large crowds where their powerful odors might cause mass hysteria and panic. Also, of course, its lack of the obnoxious odor made it popular with factory workmen and field installation and service engineers.

Its thermodynamic properties were excellent, as will be seen from the following tabulation. Also, its physical properties, such as viscosity, heat conductivity, density of both liquid and vapor, were very satisfactory, and in fact, superior in several respects to ammonia, sulphur dioxide, or carbon dioxide.

### METHYL CHLORIDE

Chemical symbol	CH <sub>3</sub> Cl
Saturation temperature at 0 p.s.i.g.	-10.76° F.
Evaporator pressure at 5° F.	6.46 p.s.i.g.
Condensing pressure at 86° F.	80 p.s.i.g.
Net refrigerating effect (std. ton condition)	150.2 B.t.u./lb.
Refrigerant circulated (std. ton condition)	1.33 lbs./min.
Compressor displacement (std. ton condition)	5.95 c.f.m.
Horsepower per ton (std. ton condition)	.96 hp./ton

### STABILITY AND MOISTURE CONTENT

In comparison with ammonia or sulphur dioxide, methyl chloride is quite stable in the presence of water. This is an important factor, for in practice, refrigerating systems contain some moisture. The ideal refrigerant should absorb a small amount of moisture up to the point where the resulting compound becomes corrosive enough to attack the materials in the system, including the oil. Above that corrosion limit the refrigerant should absorb no more moisture. Any more moisture then makes its presence known as free water, by freezing in the expansion valve or capillary tube.

The hydro-carbons, propane, butane, etc., will absorb little or no moisture and as a result, the least amount of moisture in the system gives trouble from freeze-ups at the expansion valve or capillary tube. Sulphur dioxide will absorb water and form sulphurous acid far beyond the corrosion limit. Methyl chloride is not ideal, for it will absorb moisture somewhat beyond the corrosion limit, but it was a vast improvement in this respect over sulphur dioxide.

Methyl chloride can be used with most of the common metals or other materials ordinarily used in the construction of the refrigerating system. However, it MUST NOT be used in a system containing aluminum, magnesium, zinc, or their alloys. This does not include the drying agent activated alumina, which is not an alloy of aluminum and may be, and has been for years, used with methyl chloride.

Flowers and other plant life, furs, fabrics, etc., were not harmed by exposure to methyl chloride, as was the case with sulphur dioxide. Even foods and beverages are not noticeably or visibly affected or rendered dangerous to use by exposure to

methyl chloride.

Ordinary petroleum base oils mix readily with methyl chloride and are thus carried along through the system and do not tend to "log up" the evaporators. Thus, it was found that evaporator capacities and efficiencies could be maintained at maximum.

Also, suction lines could be installed without having to be certain that they sloped continuously back from the evaporator to the compressor as had been necessary with sulphur dioxide.

### MODERATELY TOXIC

As to toxicity, methyl chloride was a vast improvement over ammonia and sulphur dioxide. Not only was it less dangerous to breathe than these refrigerants, but it was found to be much less toxic than ordinary gasoline, benzene, or even carbon tetrachloride, which were commonly handled with reasonable safety.

However, methyl chloride, although an improvement from toxicity standpoint, was still not ideal in that respect. Moreover, its lack of odor prevented its warning those who might be exposed to it. It can be dangerous if breathed in rather heavy concentrations of over 2½% for as much as two hours.

### MODERATELY FLAMMABLE

In flammability, it is inferior to sulphur dioxide and carbon dioxide, but similar to ammonia. It will burn, or if confined, may explode if mixed in just the right proportion with air. If there is over 8.1% methyl chloride (by volume) in the air, but less than 17.2%, the mixture may explode if ignited. If there is less than 8.1% or more than 17.2% methyl chloride, the mixture will not explode.

However, if these non-explosive mixtures are exposed to flames or hot surfaces such as electric hot plates at 800° F. or above, the methyl chloride decomposes to form gases that may be highly toxic including hydrochloric acid gas, phosphene, chlorine, and carbon monoxide, although they may appear in very small quantities that are readily diffused by reasonably good ventilation. Open flames or hot surfaces should be avoided where methyl chloride may be present, especially in poorly ventilated rooms. This is also true of some of the other halogenated hydro-carbon refrigerants such as ethyl chloride, methylene chloride, dichloroethylene, and the "Freons" as will be covered later.

### TESTING FOR LEAKS

In the first few years of the use of methyl chloride as a refrigerant, a great deal of trouble was experienced in field testing for leaks. The soap-and-water method was the only one known. It was very effective if done properly, but it was a slow method and servicemen who had been accustomed to the quick, accurate, and easy "smoke" method of testing for sulphur dioxide or ammonia leaks, were impatient or careless and the equipment was not adequately tested.

In time, however, they developed a technique in the use of soap and water, and they also learned the necessity of making a careful test. Still later the halide torch was developed which was a vast improvement.

Methyl chloride was a big step forward in the search for the ideal refrigerant. The trend of that search has been toward safer and more stable refrigerants, even though they might be even less efficient than some of the older refrigerants.

The next great step was the development of the "Freon" refrigerants.

(To Be Continued)

### 25th Store Becomes AMC Member

WHITE SULPHUR SPRINGS, W. Va.—Carson Pirie Scott & Co., Chicago department store, has joined the Associated Merchandising Corp., it was announced at an AMC store principal's meeting here recently.

The Chicago store is the 25th to join the AMC, which is said to be the country's largest buying office.

## G-E Plans 29th Warehouse, Service Shop for Richmond

RICHMOND, Va. — To provide better repair, maintenance, and warehousing facilities for its customers in Virginia, General Electric will establish a new apparatus service shop and warehouse here late this summer, it was announced recently by H. V. Whitney, manager of the company's apparatus office in Richmond.

Set up to service and repair motors, generators, transformers, control devices, switchgear, and other apparatus, the new service shop will contain the latest in machine tools, Whitney said.

The shop will be staffed and supervised by men thoroughly trained in factory practices. It will be the 29th in the chain of G-E apparatus service shops across the country.

## Johnson Service Co. Will Open 2 Branches In East

MILWAUKEE—Addition of two New England branch offices has been announced by Johnson Service Co. here, manufacturer, engineer, and contractor of automatic temperature and air conditioning control systems.

The new Hartford, Conn., branch, under the management of E. J. Hoaglund, will serve Johnson customers in most of Connecticut and Vermont and in western Massachusetts. The Portland, Me., branch, which will be headed by E. C. Doyle, will handle Johnson installations throughout the state of Maine.

Both Hoaglund and Doyle were formerly sales engineers in the company's Boston office. Johnson now has 37 offices.



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Refrigerated air is exhausted against the back wall and travels in a positive path to the bottom of the fixture.

Standard construction includes—Exclusive Betz Coil—Life Lubricated Motors—Baked Enamel Finish on Rust Proofed Steel.

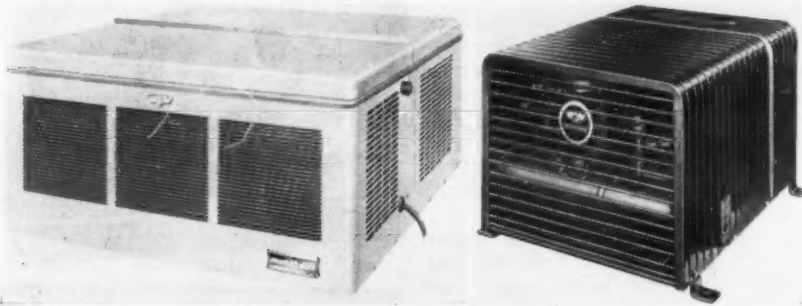
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## Some of Commercial, Air Conditioning Units Introduced by Frigidaire



ABOVE LEFT: New 1-hp. window-type room conditioner.

ABOVE RIGHT: Commercial-size "Meter-Miser."

RIGHT: Some of the first Frigidaire store-type air conditioners produced under the new lower price schedule roll off the line at the firm's Dayton plant.



The rotary compressor, together with the electric motor, is sealed in a welded steel case. The 115-volt, 50-60-cycle motor is equipped with a thermal overload protector, automatic overload and reset device, heat remover, and electrolytic capacitors.

The air-cooled condenser has only one exposed surface. All electrical circuits and controls are grouped and housed in a single box.

Suggested retail price schedule (old and new) on Frigidaire's window air conditioners and packaged store conditioners is as follows:

### WINDOW-TYPE ROOM COOLERS

Model	Size	Old Price	New Price	% Decrease
ARL-50	1/2 hp.	\$ 408.75	\$ 359.75	12%
ARL-100	1 hp.	589.75	464.75	21%

### PACKAGE STORE UNITS

Model	Size	Old Price	New Price	% Decrease
ASL-300T	3 hp.	1,144.00	1,100.00	4%
ASL-500T	5 hp.	1,621.00	1,496.00	7%

Suggested retail price schedule on three Meter-Miser commercial conditioning units in fractional horsepower sizes, exclusive of installation and delivery charges, are:

Model	Size	Old Price	New Price	% Decrease
MM-1	1/4 hp.	\$144.75	\$129.50	11%
MM-2	1/2 hp.	174.50	144.50	17%
MM-3	3/4 hp.	204.00	182.75	10%

The following retail price schedule is for Frigidaire water cooler models equipped with the Meter-Miser rotary compressor. Range of reductions on models equipped with reciprocating compressors is comparable:

Model	Size	Old Price	New Price	% Decrease
BR 330	3 gal. (bottle)	\$217.00	\$210.00	3.2%
PR 3K	3 gal.	233.00	219.00	6%
PR 3-5K	3-5 gal.	259.00	228.00	11.9%
PR 6K	6 gal.	271.00	233.00	14%
PR 6-10K	6-10 gal.	302.00	245.00	18.8%
PR 10-20K	10-20 gal.	377.00	338.00	10.3%

## ASRE Lists Sessions for June Cruise--

(Concluded from Page 1, Column 3) seeing and inspection trips, ASRE reported.

Three technical sessions will be held on the steamship during which 10 papers on such diverse subjects as air cycle refrigeration, laboratory for arctic testing, and capillary tube design will be heard.

In addition to the technical sessions, a domestic refrigerator engineering conference will be held, with the field testing of household refrigerators the principle subject of discussion.

An inspection trip has been arranged during the stopover at Bagotville to the new plant of the Aluminum Co. of Canada at Arvida which has just recently been opened to the public. From there, ASRE members and guests will proceed to the mammoth hydroelectric power plant at nearby Shipshaw. On the return trip to Montreal the *Richelieu* will stop for a full day at Quebec for sightseeing in the picturesque French-Canadian city.

During the cruise, dancing is scheduled for every evening in addition to the annual cocktail party and dinner-dance on Tuesday. Committee meetings to further the activities of ASRE have been arranged for convenient times.

Program of the technical sessions follows:

### FIRST TECHNICAL SESSION

9:00 a.m., Monday, June 6

"Specific Heat of Foodstuffs" by Horace E. Staph, University of Texas.

"The Action of Desiccants in the

Removal of Water from Refrigerating Systems" by B. J. Sterk, Socorro Vacuum Laboratories.

"Determination of Water and Non-Condensable Gas Content of 'Freeze-12' Gas by a Dewpoint Method" by H. M. Elsey, Westinghouse Electric Corp., Research Laboratories.

"Moisture in Walls of Cold Storage Rooms" by Carl Munte, Stocksund, Sweden.

### SECOND TECHNICAL SESSION

7:30 p.m., Monday, June 6

"Refrigeration Abstracts" by D. T. Tressler, Westport, Conn.

"Air Cycle Refrigeration and Its Applications" by Paul Scofield, Air Research Mfg. Co.

"A New Canadian Laboratory for Arctic Testing" by J. L. Orr and D. G. Henshaw, National Research Council, Canada.

### THIRD TECHNICAL SESSION

2:00 p.m., Tuesday, June 7

"Theory and Use of the Capillary Tube Expansion Device—Part II, Non-Adiabatic Flow" by M. M. Bolstad, University of Missouri, and R. C. Jordan, University of Minnesota.

"New Development in Absorption Refrigeration" by A. A. Berestneff, Carrier Corp.

"Cold Rubber—Its Preparation, Properties, and Application" by Douglas Chalmers, Gates Rubber Co.

### DOMESTIC REFRIGERATOR ENGINEERING CONFERENCE

7:30 p.m., Wednesday, June 8

"Domestic Refrigerator Field Testing." Discussion led by R. F. Roeder, General Electric Co.

## 18 Frigidaire Units Priced 3-21% Lower--

(Concluded from Page 1, Column 3) units, one of the first of its kind to reach the market, is equipped with two independent refrigerating systems for "selective cooling" and has 1-hp. refrigerating capacity.

Quiet operating and automatic moisture disposal are other highlighting features. The cooling operation is said to be more economical because one or both of the twin Meter-Miser units can be operated, depending upon outside weather conditions.

One of the Meter-Miser units supplies adequate capacity to cool a room during the night or in temperate weather. However, during extremely hot days both can be operated simultaneously to cope with the increased air conditioning load.

A thermostatic control, available if desired, will provide a completely automatic operation for one of the two systems.

This large air conditioner will fit double-hung windows from 30 to 56 in. wide and will condition rooms of 250 to 500 sq. ft. It cools, filters, dehumidifies, and circulates air at a rate of 315 c.f.m. Fresh outside air for ventilation can be added at a rate of up to 50 c.f.m.

The smaller model, equipped with a single Meter-Miser unit, is designed to fit double-hung windows from 28 to 54 in. wide and will deliver up to 200 cu. ft. of conditioned air per minute. It will admit up to 35 cu. ft. of fresh outside air per minute.

### METER-MISERS RUBBER-MOUNTED

The Meter-Miser units in both conditioners are mounted on rubber and the welded steel case, finished in harmonizing grey, is insulated for quiet operation. A spun-glass filter removes dirt, dust, and pollen from the incoming air.

The streamlined new 3 and 5-ton store air conditioning units are equipped with two-tone grey cabinets and four-way air distribution hoods. There are four air discharge grilles located on the front of the distribu-

tion hood, four on the rear, and a single outlet on either end.

These new store air conditioners are comprised of three principle sections, including the compressor, cooling unit, and air distribution compartments.

A fan draws room air through the intake grille and mixes it with fresh outside air in the lower part of the cooling unit chamber. A single metal filter, 1-in. thick, cleans the air before it passes into a Multipath cooling unit.

A thermostatic expansion valve controls the flow of refrigerant. Effective use of the entire coil is made possible by the counter-flow principle. Air and refrigerant flow in opposite directions and a staggered tube system sets up turbulence in the air stream and affords a faster heat transfer.

### 5-HP. MODEL HAS CONNECTION FOR CITY WATER

The 5-hp. model is equipped with a two-cylinder compressor mounted on twin water-cooled condensers connected in parallel. A large-capacity refrigerant receiver-condenser has a low water pressure drop and separate connections for use with city water or cooling tower systems.

A special odorless insulation, both fire and fungus resistant, reduces heat leaks and minimizes sound, Roberts said. A heating coil can be installed for winter use. All electrical and plumbing connections are grouped together close to the floor to speed installation or dismantling.

Similarly equipped, the 3-hp. air conditioner has a single condenser. The new air conditioners can be used in multiple to condition an entire building, a series of floors, a single floor, or any large area. On the other hand, a single air conditioner will serve several offices, a department, or smaller sections of a floor.

Three completely new rotary Meter-Miser refrigerating unit, for use with display cases and other commercial refrigerators, are produced in 1/4, 1/2, and 3/4-hp. capacities. Of rectangular design, the new units feature a brand new principle known as "directed air flow," Roberts declared.

### SMALL 'MISERS' HAVE RECTANGULAR DESIGN

All component parts are built around a rotary-type compressor, similar to those used in Frigidaire household refrigerators, ice cream cabinets, and other refrigeration products.

The entire mechanism, including compressor, fan, condenser, receiver, and controls is covered by a snug-fitting metal housing, which provides uniform air distribution over the condenser and permits a minimum of condenser air recirculation.

**1 BUSH NON-FREEZE STEAM COILS**  
are provided with internal steam distributing tubes... to facilitate modulating control. Aluminum fins on tinned copper tube. Mechanically expanded fin-to-tube bond for high transfer coefficient.

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are available in standard fin lengths and heights... correctly circuited for minimum water pressure drop while maintaining maximum operating efficiency. Headers sized for proper distribution.

**3 BUSH STANDARD STEAM HEATING COILS**  
have O-GEE curve to allow free expansion of tubes... which are orificed at inlet to give good steam distribution. Large headers with connections located for proper distribution and drainage.

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